

1027

Ctenogobius gymnauchen Jordan and
Snyder, Proc. U. S. Nat. Mus., vol. 24,
p. 58, fig. 6, 1901 (Misaki; Wakanoura;
Nagasaki; Tokyo Bay; Tsuruga;
Ehoshima).

Bleeker, Verh. Kon. Akad. Wet. Amsterdam,
vol. 18, (Jap.), p. 19, 1879 (reference). —

Rhinogobius gymnauchen Fowler and
Bean, Proc. U. S. Nat. Mus., vol. 62, p.
70, 1922 (Takao, Formosa).

Jordan, Yanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, art. 1, p. 342, fig. 291,
1913 (reference).

Acentrogobius gymnauchen Jordan and
Snyder, Proc. U. S. Nat. Mus., vol.
p. 37, 1900 (Tokyo); Annot. Zool. Japon.,
vol. 3, p. 112, 1901 (Yokohama).

Gobius neilli Day, Proc. Zool. Soc.
London, p. 152, 1868 (type locality,
Backwater and seashore [Madras],
India); Fishes of India, pt. 2,
p. 290, pl. 62, fig. 4, 1896 (type);
Fauna British India, Fishes, vol.
2, p. 259, 1889.

Rhinogobius neilli Fowler, Proc.
Acad. Nat. Sci. Philadelphia,
1927, p. 290 (Orani; Orion). —
Roxas and Marten, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p.
228, 1937 (reference).

? Gobius neilli Day, Proc. Zool. Soc.
London, p. 152, 1868 (type locality,
~~Madras~~ Backwater and near shore
[Madras I., India]; Fishes of India,
Pt. 2, p. 290, Pl. 62, fig. 4, 1896 (type);
Fauna British India, Fishes, vol. 2,
p. 259, 1889.

Rhinogobius baliuroides (not Bleeker)
Jordan and Richardson, Bull. Bur.
Fishes., vol. 27, p. 277, 1907 (1908)
(Aparri, Luzon); — Suvatti, Index Fish.
Siam, p. 154, 1936 (Songkhla).

Rhinogobius nebulosus (not Forsk.)
Fowler, Proc. Acad. Nat. Sci. Philadelphia,
vol. 86, p. 82, fig. 23, 1934 (Den Pasar,
Bali).

Rhinogobius melanobranchus Fowler,
op. cit., p. 82, figs. 24-25, 1934 (type
locality, Den Pasar, Bali).

Herre, Gobies of Philippines, p. 188, 1927 (Vigan;
San Fabian; Malabon; south coast Luzon; Molo;
Dumaguete; Kanoan; Cuyo; Cagayan; Caldera Bay,
Zamboanga; Davao); Journ. Pan-Pac. Res. Inst., vol.
2, no. 4, p. 10, 1933 (Dumaguete); Fish. Herre Philippine Exped.
1931, p. 10, 1934 (reference). — Roxas and Martin, Departm.
Agric. Comm. Manila, Tech. Bull. 6, p. 227, 1937 (reference).

Depth $4 \frac{1}{2}$; head $3 \frac{1}{4}$, width $1 \frac{1}{2}$. Snout $3 \frac{1}{6}$ in head; eye $3 \frac{3}{5}$, $1 \frac{1}{10}$ in snout, supero-lateral; maxillary reaches opposite front eye edge, length 3 in head; band of small, simple, conic teeth in each jaw, and an outer series enlarged and curved; tongue broad, depressed, front edge convex; inter-orbital $6 \frac{1}{2}$, narrowly convex ridge. Gill rakers $1+5$, lanceolate, short, barely half of gill filaments, which 3 in eye.

Scales $30+2$ in median lateral series; 11 transversely between soft dorsal and anal origins. Scales in even longitudinal rows on trunk. Head largely naked, only a few small scales on opercles, mostly above. Lower cheek with 4 horizontal series of pores, close set, indistinct; 2 short parallel rows across opercle above; vertical series close behind preopercle edge and horizontal series across opercle. Scales on predorsal and occipital region sparse, small, weakly cycloid and obsolete. Except rather small scales on caudal base, all other fins naked. Scales with 20 to 24 convergent basal radiating striae; apical denticles 50, graduated larger above and below; circuli fine.

D. VI—I, 9, third spine $1 \frac{7}{8}$ in head, third ray $1 \frac{4}{5}$; A. I, 9, third $2 \frac{1}{3}$; caudal $1 \frac{1}{4}$, convex behind; least depth of caudal peduncle $2 \frac{1}{2}$; Pectoral $1 \frac{1}{2}$; ventral $1 \frac{2}{5}$. Vent close before anal.

Pale avellaneus generally. Back and upper surface of head with many

darker or brownish vermiculations, usually formed by pale apical spot on each scale. Along middle of side 3 obscure dusky blotches, first about middle of pectoral, second below soft dorsal, and third at caudal base. Eye pale brown, pupil dusky, with metallic green luster. Fins all pale generally. Spinous dorsal with rather broad dusky to blackish streaks or blotches, little more inclined than spines. Soft dorsal with 3 or 4 rows of deep dusky rounded spots and fin edge dusky. Caudal similar. Anal whitish, edge dusky. Ventral pale.

One example. Manila harbor. March 16, 1908. Length 40 mm.

One example. Cotabato, below mouth of river, Mindanao. May 20, 1908. Length 40 mm.

Eleven examples. East side of Tagbalaran Strait, Bohol Island. August 9, 1908. Shore seine. April 9, 1908. Length 31 to 57 mm. One of smaller examples differs in showing upper or posterior surfaces of ventrals and lower edge of anal blackish brown. In every other way it seems to agree with the others of the series, which are all, however, quite light in general coloration.

[659] Shore above Iloilo, Panay. June 2, 1908. Length $7\frac{1}{2}$ mm.

U. S. N. M., no. 49876. Misaki,
Sagami, Japan. D. S. Jordan
and J. O. Snyder. Length 43 mm.

U. S. N. M., no. 49989. Bay of
Tokyo, Japan. K. Kishinouye.
Length 45 to 68 mm. Eight examples.

U. S. N. M., no. 71199. Kafa,
Okinawa, Luchu Islands, Japan.
Bureau of Fisheries. Albatross
Expedition 1906. Length 42 mm.

U. S. N. M., no. 71500. Kagoshima,
Satsuma, Japan. Bureau of
Fisheries. Albatross Expedition.
Length 53 to 54 mm. Two examples.

U. S. N. M., no. 76630. Formosa.
Dr. Fred Baker. Length 94 mm.

Gobius gymnauchen
H. C. Kellers

U. S. N. M., no. 102507. Iloilo,
Panay, Philippines. April 30,
1929. Lieut. H. C. Kellers.
Length 58 mm.

Gobius gymnauchen (Bleeker)

- Gobius gymnauchen Bleeker, Act. Soc. Sci. Ind. Neerl. (Jap.), vol. . . , p. 84, pl. 1, fig. 2, 1860 (type locality, Tokyo). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 43, 1861 (copied).
- Taniyama, Jap. Journ. Zool., vol. 7, no. 1, p. 67, fig. 21, 1936 (Uten, Okinawa to Sakigata, Akita, coast of Japan Sea, Abukuma R., Miyagi).
- Károlyi, Termész. Füzetek, Budapest, vol. 5, p. 165, 1881 (1882) (Yokohama; Nagasaki; Kobe).

1034

Gobius haackee Steindachner

Gobius haackee Steindachner, Vitz.
Abad. Wiss. Wien, math. naturw.
Klasse, bd. 88, th. 1, p. 1074, 1884
(type locality, South Australia).
— McCulloch, Austral. Mus.
Mem., no. 5, pt. 3, p. 370, Nov. 28,
1929 (reference).

1035

Gobius hainanensis (Oshima)

Rhinogobius hainanensis Oshima,
Annot. Zool. Japon., vol. 11, no. 1, p.
23, March 31, 1926 (type locality,
Hainan). — Chu, Biol. Bull. St.
John's Univ., no. 1, p. 162, Jan. 1931
(reference).

Gobius hemigymnopus Bleeker

Gobius hemigymnopus Bleeker, Act.
 Soc. Sci. Ind. Neerl., vol. 1, no. 3, p. 19,
 50, 1856 (type locality, Macassar);
 Nat. Tijds. Ned. Indie, vol. 13, p. 284,
 1857 (Tjuntjuf, Biliton); Act. Soc.
 Sci. Ind. Neerl., (Act. Celebes),
 vol. 8, p. 43, 1860 (Celebes). —
Günther, Cat. Fish. Brit. Mus.,
 vol. 3, p. 20, 1861 (copied).

Depth $5\frac{1}{2}$, body elongate, anteriorly cylindrical, posteriorly compressed; head $4\frac{1}{2}$, obtuse, convex, width $1\frac{4}{5}$. Snout shorter than eye; eye $3\frac{1}{2}$ in head, close to opposite eye; maxillary reaches below front of eye; jaws subequal; teeth in jaws pluriserial, outer series enlarged; postocular groove prominent.

Scales 32 in lateral series. Cheek and opercle with small scales. Predorsal scales 17. Cheek with 2 lines.

D. VI - I, 10 or I, 11, fin height half to subequal with body height, second and third spines longest and flexible, first ray flexible; A. I, 8 or I, 9, not higher anteriorly or lower posteriorly than second dorsal, pointed posteriorly; caudal obtuse, rounded, length $4\frac{1}{2}$ in body; pectoral rays 16, upper like, fin rounded; ventral rays I, 5, fin $5\frac{1}{2}$ in length of fish. Anal papilla conic, obtuse.

Body above olive green, below pale greenish rose. Head with

1036b

bands each side, at 2 or 3 brown ones from snout to eye, 1 from eye to opercle and 1 from maxillary to opercle. Lateral band composed of large brown confluent blotches. Back and sides above spotted irregularly and sparsely brown, and with greenish black dots. Dorsals with rays golden rose, membrane hyaline, ^{pharyngeal} violaceous above, with 2 longitudinal rows of round black spots. Anal rays golden, membranes hyaline shaded violaceous, medianly with sparse black spots, and border rose black. Pectoral rays golden, membrane hyaline, with 2 short basal longitudinal brown streaks. Ventral rays rose, membrane white, dusted with violaceous.

Length 76 to 79 mm.

Celebes.

(Bleeker)

Gobius hendersoni (Herre)

Gnatholepis hendersoni Herre, Bull.
Raffles Mus. Singapore, No. 12, p. 7
Pl. 3, May 1936 (type locality,
Reef in Singapore Harbor). —
Herre and Myers, op. cit., No. 13, p. 39,
Aug. 1937 (types).

Depth $4 \frac{7}{10}$; head $3 \frac{3}{5}$. Snout
 $2 \frac{3}{4}$ in head; eye $3 \frac{1}{3}$, $1 \frac{1}{4}$ in
snout, invading upper profile of
head; maxillary reaches $\frac{1}{3}$ in
eye, length $2 \frac{3}{4}$ in head; mouth
very low, horizontal, gape
scarcely reaching below eye;
minute teeth in bands, upper
jaw with outer row enlarged;
males with very small lower
lateral canine; lower margin of
preopercle fringed with very
small papillae; interorbital space
very narrow, eyes almost touching
along their inner margins.

Scales 26 in lateral series to caudal base and 3 or 4 more on latter; 8 transverse; 6 or 7 predorsal. Scales ctenoid, extend forward to eyes; opercles and preopercles covered with finely ctenoid scales.

D. VI - I, 10, second spine $1\frac{3}{4}$ in head, first branched ray $1\frac{2}{3}$; A. I, 9, first branched ray $2\frac{1}{4}$, eighth branched ray $1\frac{2}{3}$; least depth of caudal peduncle $2\frac{1}{3}$; pectoral $1\frac{1}{6}$, without free silky rays; ventral rays I, 5, fin $1\frac{1}{8}$ in head. Anal papilla very small, pointed in males, very short and rounded in females.

Color in alcohol very pale tan, spotted and freckled with dusky, or brown everywhere except beneath. Along side row of 5 large blackish spots, last one on caudal base, alternating with white spots, whole bounded above and below by brown lines. Pearl white spots

10376

scattered over lower half of head and body. Large dusky brown spot on cheek and another on opercle. Under side of head with alternating brown and white spots. On base of dorsal membranes between first 3 spines 2 deep blue spots. Both dorsals, caudal and pectoral cross-banded by numerous rows of brown spots. Anal dusky. Ventrals dusky, with cross bars of white spots.

Length 35 to 45 mm. (Herre.)

Singapore. Described without comment as to characters other than "This species belongs to the section Gnatholepis represented by Gnatholepis deltoides Seale and Gnatholepis davaoensis Seale, but is very distinct from either. In life it must be a very handsome goby."

Gobius hinsbyi McCulloch
and Ogilby

Gobius hinsbyi McCulloch and
Ogilby, Records Austral. Mus.,
vol. 12, pt. 10, p. 215, pl. 33, fig. 1,
1919. (Type locality, Wedge Bay,
Tasmania). — Johnston, Abstr.
Proc. Roy. Soc. Tasmania, p. x,
May 13, 1902 (published 1903)
(type locality, Tasmania) (nomen
nudum).

Mesogobius hinsbyi McCulloch,
Australian Mus. Mem., no. 5, pt. 3,
p. 369, nov. 28, 1929 (reference).

Gobius pictus (not Malm 1865)
Castelnau, Proc. Zool. Acclimat.
Soc. Victoria, vol. 1, p. 124, 1872
(type locality, St. Kilda, Victoria).

1039

Gobius immeritus (Whitley)

Parvigobius immeritus Whitley,
Australian Zoologist, vol. 6,
p. 122, 1930 (on De Vis).

Gobius flavescens (not
De Vis, Proc. Linn. Soc. New South
Wales, vol. 9, pt. 3, p. 689, Nov. 29,
1884 (type locality, Moreton Bay,
Queensland)).

Gobius infaustus Sauvage

Gobius infaustus Sauvage, Bull.
Soc. Philom. Paris, ser. 7, vol. 4,
p. 42, 1880 (type locality, Melbourne
Victoria). — McCulloch, Austral.
Mus. Mem., No. 5, pt. 3, p. 370, Nov.
28, 1929 (reference).

1041

Gobius xanthinopterus Bleeker

Gobius xanthinopterus Bleeker,
Nat. Tijds. Ned. Indië, vol. 3, p.
(690) 702, 1852 (type locality,
Wahai, Ceram); vol. 5, p. 176, 1853
(Marawang, Banka); vol. 15, p. 220,
1858 (Billiton); Verslag. Kon. Akad.
Wet. Amsterdam, vol. 4, p. 101, 1862
(Batjan); Ned. Tijds. Dierk., vol. 2,
p. 172, 1865 (Ceram).
(vol. 18, p. 370, 18~~58~~59 (^{Banka} Palembang);

Depth 6, body elongate, compressed; head $4\frac{1}{2}$, obtuse, convex, width $1\frac{2}{3}$. Snout obtusely convex, shorter than eye; eye $3\frac{1}{2}$ in head, advanced, close to opposite eye; mouth reaches below front eye edge, oblique, lower jaw little prominent; teeth pluriserial, outer row larger, and lower jaw with 2 small curved caninels; postocular groove prominent.

Scales 28 in lateral series. Cheek and opercle scaly above. Predorsal scaly.

D. VI - I, 10, fins subequal in height, first 4 spines end in filaments, second dorsal pointed and little lower than body; A. I, 8 or I, 9, pointed, scarcely higher than second dorsal; caudal obtuse, rounded, length $4\frac{1}{2}$ in body; pectoral rays 16, silk like; ventral rays I, 5; paired fins $5\frac{2}{3}$ in length of fish. Anal papilla oblong.

Color of body above yellowish green, below green. Back and

1041-
sides with large diffuse brown
spots in 2 or 3 longitudinal rows.
~~Body~~ Fins violaceous, dorsals
and anal with a few black
spots.

Length 82 mm.

Ceram.

(Bleeker.)

1042

~~Psammogobius~~ Gobius knysnaensis
(J. L. B. Smith)

Psammogobius knysnaensis J. L.
B. Smith, Records Albany Mus.,
vol. 4, pt. 2, p. 215, May 23, 1935
(type locality, Knysna; Breede,
Kleurbooms, Bushman and Kowie
Rivers).

Depth 5 to $5\frac{1}{2}$; head $3\frac{1}{3}$ to
 $3\frac{1}{2}$, not very broad, scarcely
depressed. Eye $3\frac{1}{3}$ to $3\frac{2}{5}$ in
head, subequal with snout,
dorso-lateral and almost
contiguous; maxillary reaches
below front edge of eye; mouth
moderate, oblique, lower jaw
projects strongly; teeth fine,
pointed, conical, recurved,
depressible, 3 or 4 rows in each
jaw, inner row largest, and
no large canines; tongue
bilobed, free; anterior nostril

1043

tubular. Lower gill rakers 7 or 8, short, stout, club-shaped.

Scales 29 to 31 in lateral series; 9 or 10 transversely; 10 to 12 predorsal. Head otherwise naked. Scales ctenoid. Small patch of cycloid scales on throat immediately before ventral bases, one large median scale, others smaller, scarcely visible, obscured by thick coat of mucus.

D. VI - I, 9, begins vertically above middle of pectoral, fin clearly separated, first dorsal not elevated with front spines $\frac{3}{4}$ body depth, spines scarcely projecting beyond membrane and soft rays slightly higher than anterior spines; A. I, 10, rays about half body depth; caudal rounded, $\frac{2}{3}$ of head; pectoral rays 17 or 18, no free rays, almost

1044

$\frac{3}{4}$ of head; ventrals very long, not adnate to belly, reaching to or beyond anal origin.

Gray brown, mottled and streaked. Five irregular cross bars. Six or 7 fine white cross-bars on lower part of side, rarely absent. Dorsal and anal with rows of spots. In some males bright green ocellus between fourth to sixth dorsal spines.

Length 25 to 61 mm. (J. L. B. Smith.)
South Africa. "This species lives on the sand banks in these rivers. The colouration harmonises well with the surroundings, and the species is able to bury itself in the sand with extraordinary rapidity. On the sand banks, these small fishes advance with the tide, resting in the fringes of the tiny ripples; when startled, they dart away a short distance, and easily sink below the

1045

surface of the sand, when they
may be secured by scooping up
the sand. Specimens are
frequently left stranded by the
tide, but appear to suffer
no inconvenience, remaining
buried in the moist sand
until the water returns."

U. S. N. M., no. 93656. Mouth
Bushman's River, South Africa.
Albany Museum. Length 46 mm.

Gobius boumansi (Herre and Myers)

Gnatholepis boumansi Herre and Myers,
Bull. Raffles Mus. Singapore, No. 13,
p. 39, Aug. 1937 (type locality, Reef
No. 1,
in Straits of Malacca).

Depth $3 \frac{4}{5}$; head $3 \frac{1}{4}$, width
 $1 \frac{1}{5}$. Snout $3 \frac{4}{5}$ in head from
snout tip; eye $6 \frac{1}{3}$, $1 \frac{2}{3}$ in snout,
 $1 \frac{1}{3}$ in interorbital; maxillary
reaches below front rim of eye,
length $2 \frac{4}{7}$ in head from snout
tip; teeth in 3 or 4 rows in
each jaw, outer row enlarged,
with pair of small canines on
each side of front of mouth
above and pair of large canines
outside on each side of lower
jaw, latter fully exposed when
mouth closed; Tongue truncate;
mouth nearly vertical, with lower
jaw projecting; interorbital $4 \frac{3}{4}$.

Scales $28+2$ in lateral series;
 10 transversely; 16 predorsal.
 Preopercle with 6 rows of scales,
 those below eyes smallest, line
 of sensory papillae between each
 row of scales. Opercle with 6
 rows of scales.

D. VI - I, 10, second spine $2\frac{1}{4}$
 in total head length, first
 branched ray $2\frac{3}{4}$, ninth ray $1\frac{7}{8}$;
 A. I, 9, first ray $3\frac{1}{10}$, last ray
 2; caudal 1, convex behind;
 least depth of caudal peduncle
 $2\frac{1}{6}$; pectoral $1\frac{1}{5}$; ventral $1\frac{1}{2}$.
 Small pointed anal papilla 2
 in eye.

Color in life pale yellow,
 sprinkled with minute dark
 specks. Above pectoral large
 black spot covering 6 or 8 scales,
 each scale bearing pearl covered
 spot. Over nape narrow black
 stripe, connecting spots on 2 sides.
 Caudal dusky, other fins all

1049

black. In alcohol faded yellowish
gray and pearly lustre gone from
scales of shoulder spot.

Length 62 mm. (Herre and
Myers.)

Malacca. The figure does
not show the narrow black
stripe over the nape mentioned
in the description.

Gobius kuhlii Bleeker

Gobius kuhlii Bleeker, Nat. Tijds.
ned. Indie, vol. I, p. 251, ^{fig. 9,} 1850. (Type
locality, Menes in River Tjiruang,
Bantam).

Depth 8, body elongated; head $4\frac{2}{3}$, obtuse convex, twice as long as deep. Snout obtuse, convex, covered with papillae; eye 5 in head, placed in second fourth of head; mouth extends below front of eye, jaws equal; no canine teeth.

Scales 30 in lateral series.

D. V — I, 9, fins well separated, by length of spinous dorsal, which rounded and second dorsal little higher, scarcely lower than body depth; A. I, 10; second dorsal and anal subequally high, pointed posteriorly; caudal obtuse, rounded, length 7 in body; pectoral rays 15? fin obtuse, much shorter than head; ventral rays I, 5, much larger than head.

Color of body and fins yellowish. Caudal golden below. Vertical fins margined with brown.

Length (from figure) 55 mm. (Bleeker.)
Java.

1051

Gobius lateralis macleay

Gobius lateralis macleay, Proc.
Linn. Soc. New South Wales,
vol. 5, pt. 4, p. 602, May 20, 1881
(type locality, King George's
Sound, Western Australia).
— McCulloch, Australian Mus.
Mem., No. 5, pt. 3, p. 371, Nov. 28,
1929 (reference).

Gobius lateralis var. obliquus McCulloch and Ogilby, Records Austral.
Mus., vol. 12, No. 18, p. 249, pl. 34, fig.
4, July 14, 1919 (type locality,
Rose Bay, Port Jackson).
Favonigobius obliquus Whitley, Australian
Zoologist, vol. 6, pt. 2, p. 123, Jan. 14, 1930
(reference).

Gobius leavelli (Herre)

Ctenogobius leavelli Herre, Lingnan
Sci. Journ., vol. 14, no. 3, p. 396,
July 1, 1935 (type locality, Hill
streams around Wuchow, Kwangsi
Province, China).

Depth $5 \frac{1}{6}$ to $5 \frac{1}{2}$; head $3 \frac{1}{4}$ to 4,
width $1 \frac{2}{5}$ to $1 \frac{1}{2}$. Snout $2 \frac{3}{4}$ to
 $2 \frac{4}{5}$ in head; eye $4 \frac{2}{5}$ to $4 \frac{4}{5}$; inter-
orbital $6 \frac{3}{5}$ to 8.

Scales 30 in lateral series; 10
transversely; 6 to 9 predorsal. Body
covered with ctenoid scales, pre-
dorsal much smaller than others.
Head, pectoral base and ~~ventrals~~
breast in front of ventrals naked.

D. VII, I, 7 or 8, second dorsal
longest fin and rays of nearly
uniform height; second dorsal
spine 6 to 7 in length, longest
dorsal ray 6 to 7; A. I, 7, longest
ray $6 \frac{4}{5}$ to 7; pectoral round
pointed; caudal broadly rounded;

ventral, ^{with} short, thick, bilobed
frenum, fin nearly circular,
breadth sometimes greater than
length.

In life color dark, so entire
upper part often blackish. In alcohol
yellowish or yellowish gray, with 4
wide blackish double cross bands
over back, which divide on sides
and form longitudinal series of 6 or
8 irregular black spots or bars
along side. Cheek and snout
irregularly barred with dusky
stripes. Blackish spot or
transverse bar on pectoral base,
fin clear. Black spot near base of
first to third dorsal spines, and
also basal row of spots across
fin which otherwise clear. Second
dorsal and caudal with 5 to 8 cross
rows of black spots. Anal more or less
dusky with marginal white band.

Length 20 to 36 mm. (Herre.)
China.

1052

Gobius leftwichi (Ogilby)

Rhinogobius leftwichi Ogilby, Proc.
Roy. Soc. Queensland, vol. 23, p. 24,
Nov. 7, 1910 (type locality, Great
Sandy Strait, Queensland). —
McCulloch, Austral. Mus. Mem.,
no. 5, pt. 3, p. 375, Nov. 28, 1929
(reference).
McCulloch and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 172, July 7, 1925 (reference).

1053

Gobius lidwilli Mc Culloch

Gobius lidwilli Mc Culloch, Rec.
Austral. Mus., ~~part~~^{no. 7,} vol. 11, p. 185, pl.
31, fig. 2, 1917 (type locality, Cowan
Creek near Sydney), — Tomiyama,

Jap. Journ. Zool., vol. 7, no. 1, p.
66, fig. 20, 1936 (Katasima,
Koti).

(Scient. Australian), p. 57, March 1917. —
Mc Culloch and Ogilby, Rec. Australian
Mus., vol. 12, no. 10, pp. (204), 242, July 14, 1919
(reference). — Mc Culloch, Australian
Zool., vol. 2, no. 3, p. 110, pl. 35, fig. 309b,
Feb. 10, 1922; Fish. New South Wales,
p. 84, pl. 35, fig. 309b, 1934.

Perowra lidwilli Whitley, Records
Austral. Mus., vol. 16, no. 14, p. 224, March
28, 1928 (compiled). — Mc Culloch, Austral.
Mus. Mem., no. 5, pt. 3, p. 372, Nov. 28, 1929
(reference). — Whitley, Australian Zoologist,
vol. 16, pt. 2, p. 123, Jan. 14, 1930 (reference).

Depth 5 (figure shows $4\frac{3}{7}$); head $3\frac{1}{3}$ (figure $3\frac{2}{5}$). Snout $6\frac{1}{4}$ in head; eye $2\frac{1}{2}$ (figure $2\frac{1}{4}$), greatly exceeds snout, enters upper profile of head; maxillary reaches $\frac{1}{6}$ in eye, length $3\frac{3}{5}$ in head; mouth small, oblique, jaws equal; each jaw with simple and fixed teeth, biserial anteriorly; tongue broadly rounded, free anteriorly; interorbital much narrower than eye. Gill opening wide. Isthmus wide.

Scales 24 in lateral series, 8 between soft dorsal and anal origins. Scales strongly stenoid, extend forward to opercle above. Breast, prepectoral, predorsal and head, except as noted, naked. Side of head with few minute and very indistinct rows of pores on sides.

D. VI - II, 3, II, third spine $2\frac{1}{2}$ in head, first branched ray $1\frac{3}{5}$; A. II, 3, II, first branched ray $1\frac{9}{10}$; caudal $1\frac{1}{5}$, truncate, outer rays simple, others bifid; least depth of

10536

caudal peduncle $2\frac{3}{5}$; pectoral $1\frac{1}{8}$,
rays 14; ventral rays I, 5, fin $1\frac{3}{7}$ in
head.

Color translucent green, with
darker cross bars and blackish spots.
Across back 7 bars, with others
corresponding on ventral surface,
and both connected with intermediate
lateral spots. Head with numerous
spots and bars. Broad dark band
from below eye across cheek. Front
part of first dorsal black, rest
translucent (orange in life). Soft
vertical fins and pectoral each with
large basal spot.

Length 15. 25 mm. (Mc Culloch.)
New South Wales, ^{Japan} "Occurs in shoals
along the oyster-covered rocks in the
salt-water reaches of Cowan Creek, near
Sydney. It remains within a few feet
of the shore, and may be obtained in
quantity with a small scoop-net.
It is evidently carnivorous; with a
small crustacean was observed in the
stomach of one dissected."

Gobius maculipinnis (Fowler)

Drombus maculipinnis Fowler,
 Proc. Acad. Nat. Sci. Philadelphia,
 vol. 70,
 1919, p. 69, fig. 27 (type locality,
 Philippines); 1927, p. 291.

Rhinogobius maculipinnis Herre,
 Gobies of Philippines, p. 342, 1927
 (copied).

Ctenogobius maculipinnis Roxas and
Martini, Departm. Comm. Agric. Manila
 Tech. Bull. 6, p. 226, 1937 (reference).

One example. Little Santa Cruz
Island, Zamboanga. May 16, 1908.
Length 58 mm.

One example. Tomahu Island.
Tide pools. December 11, 1909.
Length 53 mm.

Gobius malayanus (Herre)

Leisquilius malayanus Herre,
Bull. Raffles Museum, Singapore,
no. 12, p. 11, pl. 8, May 1936 (type
locality; Pulau Ubin near
Singapore). — Herre and Myers,
op. cit., no. 13, p. 45, Aug. 1937
(types).

Depth $3\frac{3}{7}$; head $3\frac{3}{7}$. Snout
 $4\frac{1}{2}$ in head; eye $2\frac{4}{7}$, greater
than snout, enters upper profile
of head; maxillary reaches back
opposite front eye edge, length
 $3\frac{1}{3}$ in head; teeth minute,
except enlarged anterior tooth on
each side above and below;
very narrow interorbital space
7 in eye.

Scales $28+2$ in lateral series;
7 transversely, 8 predorsal
extend above opercles to eye,
and rest of head. Two rows

of sensory papillae cross preopercle longitudinally; several short vertical rows connect them, also extend downward from eye; another runs from point of lower jaw and mouth angle along preopercle margin; on opercle 1 vertical and 2 or 3 transverse rows.

D. VI - I, 9, third spine $1\frac{2}{3}$ in head, first branched ray $1\frac{4}{5}$, eighth ray $1\frac{2}{5}$; A. I, 9, first branched ray 2, eighth ray $1\frac{4}{5}$; caudal 3 in rest of fish, ends in median point behind; least depth of caudal peduncle $2\frac{1}{6}$ ^{in head}; pectoral 1; ventral $1\frac{2}{5}$. Anal papilla small, 3 in eye.

Color nearly uniform brown, with 5 prominent darker cross bands, first over nape to pectoral, second below spinous dorsal, third and fourth between second dorsal and anal, and last

across caudal peduncle; between first 4 are 3 more narrow cross bars. Close examination shows pale center on each scale, in life probably longitudinal rows of blue spots. First dorsal with blackish brown elongate spot above between first and third spines. Caudal with blackish brown diagonal stripe across its upper portion, with white bar above and below; dark brown spot on basal part of caudal. Ventrals dusky medially. Fins otherwise very pale (clear brown).

Length 26 to 31 mm. (Herre).

Singapore. Though described without comparison with related species it appears to be allied with Gobius eugenius (Jordan and Evermann), differing in coloration and other details.

Gobius margariturnus Richardson

Gobius margariturnus Richardson,
 Ichth. China and Japan, p. 47, 1846.
 (type locality, Macao). — Bleeker,
 Ned. Tijds. Dierk., vol. 4, p. 128, 1873
 (1874) (reference). — Károli,
 Termesz. Füzetek, Budapest, vol.
 5, p. 165, 1881⁽¹⁸⁸²⁾ (Singapore). — Fowler,
~~Cat.~~ Malaya Fishes, p. 217, 1937
 (reference).

— Günther, Cat. Fish. Brit. Mus., vol. 3,
 p. 47, 1861 (copied).

Rhinogobius margariturnus Reeves,
 Journ. Pan-Pac. Res. Inst., vol. 2,
 no. 3, p. 13, July - Sep. 1927 (reference).
 — Chu, Biol. Bull. St. John's
 Univ., no. 1, p. 162, Jan. 1931 (reference).

Depth 8 in total; head bluntly rounded in profile at snout. Eyes full diameter apart. Jaws equal; ^{teeth of outer series enlarged;} lower ^(jaw) with lateral canine tooth.

Scales pretty large, ciliated.

D. VI I, 12; A. I, 10; caudal pointed.

A few silvery specks on the nape, one on the temples, another on the gill cover, and 2 lines of pores on the cheek. A series of silvery specks running down the middle of tail.

T
Yunnan, China.

(Winter.)

1058

Gobius masoni Day

Gobius masoni Day, Proc. Zool.
Soc. London, 1873, p. 107 (type
locality, Bombay); Fishes of
India, pt. 2, p. 287, pl. 61, fig. 6,
1876; Fauna British India,
Fishes, vol. 2, p. 254, 1889 (copied).

—Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p.
70, Oct. 25, 1936 (Wainan, Formosa).

Ctenogobius masoni Fowler, Proc.
Acad. Nat. Sci. Philadelphia, vol. 89,
p. 252, fig. 281, May 19, 1937 (Tachin;
Paknam).

1059

Depth $4\frac{2}{5}$ to $4\frac{1}{2}$; head 3 to $3\frac{1}{4}$,
width $1\frac{1}{2}$ to $1\frac{3}{4}$. Snout $3\frac{2}{5}$ to $4\frac{1}{8}$
in head from snout tip; eye $5\frac{1}{5}$ to
 $6\frac{1}{8}$, $1\frac{1}{3}$ to $1\frac{1}{2}$ in snout, subequal
with interorbital; maxillary reaches
 $\frac{1}{2}$ in eye, length $2\frac{1}{8}$ to $2\frac{2}{5}$ in head
from snout tip; mandible slightly
protrudes, broadly convex; tongue
broad, rounded in front; teeth
small, in narrow band in each jaw,
with pair of small, curved, wide set
canines in each jaw anteriorly and another
at middle of each mandibular ramus;
interorbital 6 to $6\frac{3}{4}$, concave.
Gill rakers $6 + 1\frac{1}{2}$, mostly very short
poits, longest $\frac{1}{2}$ of gill filaments,
which subequal with eye.

Scales 24 to 26 + 4 or 5 in median
lateral series; 10 or 11 transversely
at soft dorsal and anal origins;

21 or 22 predorsal scales forward ¹⁹⁶⁰
eye. Few small scales on opercle
above, head otherwise naked. Row
of fine, close set papillae along suborbitals.
~~Another along upper edge of maxillary,~~
up over postocular region and back
to suprascapula; row along upper
edge of maxillary; 2 double rows
horizontally on cheeks; several rows
on preopercle and opercle; row along
each mandibular ramus and lower of
part of preopercle. Small bilobate
cutaneous flap on front of mandible
or chin. Prepectoral and caudal base
scaly. Scales with 9 basal radiating striae,
^{row of} 9 or 10 apical denticles; circles fine,
basal, coarser apically.

D. VI - I, 9, I, fourth spine 2 to $2\frac{1}{2}$
in total head length, second dorsal
height $1\frac{7}{8}$ to 8; A. I, 9, I, fin height
 $1\frac{3}{4}$ to $1\frac{4}{5}$; caudal 1 to $1\frac{1}{8}$, ends in
blunt median point behind; least
depth of caudal peduncle $2\frac{1}{4}$ to $2\frac{4}{5}$;
pectoral $1\frac{1}{3}$ to $1\frac{2}{5}$, rays 17; ventral
rays I, 5, with simple, entire, broad
membrane in front, length $1\frac{1}{2}$ to $1\frac{3}{5}$.

Anal papilla pointed, close before anal. ⁽¹⁰⁶¹⁾

Body and head pale or dull brown, with pale or pearly spot on each scale. Iris gray. Fins all dark to blackish gray, Paired fins all little brownish basally.

A. N. S. P., four examples. ^{Siam}
~~four, 49 to 61 mm., Yachin, one,~~
~~P. M. de Sebaense. Length 49 to 67 mm.~~
~~62 mm., Pabnam.~~

A. N. S. P., one example. Pabnam,
Siam. P. M. de Sebaense. Length
62 mm.

5 dark bands, formed by spots between rays. Pectoral dusky at base. Ventral pigmented with dusky.

Length 31 mm. (Beaufort.)

East Indies. Beaufort says

"This species is closely allied to Gobius arabicus L., which has a similar pattern of coloration. When we compare measurements given by Steindachner (Denkschr. Akad. Wien, LXXI, p. 147) for a juvenile G. arabicus with those of G. stigmatophorus, we find

1062

Gobius mawaia (Herre)

Vaimosa mawaia Herre, Bull.

Raffles Mus. Singapore, no. 12, p. 9,
pl. 6, May 1936 (type locality,
Ditch in the Mawai district,
Johore, 55 miles north of Singapore).
— Herre and Myers, op. cit., no. 12,
p. 40, Aug. 1937 (type).

Depth $4\frac{4}{5}$; head 3, ^{width $1\frac{7}{10}$.} snout $5\frac{1}{5}$
in head; eye $3\frac{1}{5}$, greatly exceeds
snout, not invading though meeting
upper profile of head; posterior
angle of maxillary beneath hind
margin of eye (figure shows
it $\frac{4}{5}$ to hind eye edge), length
2 in head; teeth in 3 rows in
each jaw, upper, outer row widely
spaced, enlarged; interorbital
width 5 in eye.

Scales 25 in lateral series;
7 transversely, 6 predorsal. Five

1062a

large opercular scales. Cheek and muzzle naked.

D. VI - I, 6, second spine $1\frac{9}{10}$ in head, first branched ray 2; A. I, 6, first branched ray $2\frac{1}{4}$; caudal 1, ends in median point behind; least depth of caudal peduncle $2\frac{3}{4}$; pectoral $1\frac{1}{4}$; ventral $1\frac{2}{3}$. Anal papilla very small.

Color in alcohol yellowish gray, with 4 broad dusky cross bands over back, and row of 5 elongated black spots along middle of side. Black vertical bar extends from first spot to abdomen. Black bar extends from eye diagonally across cheek and opercle. Black spot at upper angle of opercle and at upper end of pectoral base. Most of scales on head and along side more or less covered by or marginally outlined by black specks. First and second

10626

dorsals cross-banded by rows of black spots. Black cross-band on caudal base and 3 cross-bars of black on fin. Anal and ventrals dusky. Pectoral nearly colorless.

Length 24 mm.

Shore.

(Here.)

Chaenogobius megacephalus (Fowler) ¹⁰⁶³

Chaenogobius megacephalus Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
p. 516, fig. 15, Aug. 16, 1905 (type
locality, Borneo).

1064

Depth about 6[?]; head 3, width
1 ⁷/₈. Snout 3 ¹/₂ in head; eye 5,
1 ¹/₅ in snout, greatly exceeds
interorbital space; maxillary
reaches about ³/₅ in eye, length
2 in head; lips rather thin,
fleshy, with lateral margins
papillose; teeth in broad bands
in jaws, not connected in front,
and outer ones not forming pro-
nounced outer series, though
little larger than inner; tongue
truncated, with median groove
or emargination and little free
in front; narrow interorbital
space 2 ¹/₃ in eye, flattened.
Gill rakers 3 + 5, short rounded
tubercles.

Scales about 75 (injured) in
axial lateral series to caudal
base; 14 transversely above

anal origin. Scales finely ctenoid, over most of body (fallen), larger posteriorly on tail and caudal peduncle. Scales on back before and below spinous dorsal greatly reduced and crowded. Breast and median line of belly scaleless and without traces of pockets. Fins, except base of caudal and traces of minute scales at base of pectoral, scaleless. in total head length

D. VI - I, 11, third spine $2\frac{1}{3}$, second ray $2\frac{1}{4}$, last ray 3; A. I, 10, first developed ray 3, last 3; caudal $1\frac{1}{2}$; least depth of caudal peduncle $3\frac{4}{7}$; interpectoral $1\frac{3}{7}$, rays 16; ventral rays I, 5, fin $2\frac{1}{3}$. Anal papilla but little shorter than eye.

dull or pale brown, lower

surface not lighter. Iris brownish. Spinous dorsal pale brown. Soft dorsal and caudal similar, with series of indistinct brownish blotches, those on former oblique and those on latter transverse. Anal, ventral and pectoral brown, latter darker.

British North Borneo. Known by its large head, $3\frac{1}{2}$ in the entire fish inclusive of caudal.

A. N. S. P., no. . Baram,
British North Borneo. 1898. Dr.
W. H. Furness. Wistar Institute of
Anatomy of Philadelphia. Length
90 mm. Type.

1067

Gobius meggitti Hora and Mukerji

Ctenogobius meggitti Hora and Mukerji,
Records Indian Mus., vol. 38, pt. 1,
p. 31, text - fig. 6, March 1936 (type
pl. 1, figs. 3-4,

locality, Rocky pools, Mawngmagan,
Tavoy District, Lower Burma;
Kihim, Kolaba District, Bombay
Presidency).

Echidna zonata Fowler, Proc. Acad. Nat. Sci. Phila., 1900, p. 495,
pl. 18, fig. 2 (type locality, Honolulu).—Jordan and Evermann, Bull. U. S.
Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 108, fig. 31 (type of E. vincta).
—Fowler, op. cit., 1912, p. 30 (type).

Echidna leihala Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903)
p. 428, fig. 9 (type locality, Honolulu).—Jordan and Evermann, op. cit., vol.
23, pt. 1, 1903 (1905), p. 109, fig. 32 (types).

Echidna vincta Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903)
p. 429, fig. 10 (type locality, Honolulu).—Snyder, op. cit., vol. 22, 1902
(1904), p. 521 (Honolulu).

Echidna obscura Jenkins, op. cit., vol. 22, 1902 (1903), p. 430, fi
11 (type locality, Honolulu).—Jordan and Evermann, op. cit., vol. 23, pt. 1,
1903 (1905), p. 107, fig. 30 (types).

Echidna psalion Jenkins, op. cit., vol. 22, 1902 (1903), p. 431,
fig. 12 (type locality, Honolulu).—Jordan and Evermann, op. cit., vol. 23, p
1, 1903 (1905), p. 106, fig. 29 (type).

Echidna zonophaea Jordan and Evermann, op. cit., vol. 22, 1902
(1903), p. 167 (type locality, Honolulu); vol. 23, pt. 11, 1903 (1905), p. 109,

1067a

Depth $4\frac{3}{5}$ ^{to $5\frac{1}{5}$} ; head $3\frac{1}{5}$ to $3\frac{2}{5}$,
width $1\frac{3}{10}$ to $1\frac{1}{2}$. Snout $3\frac{1}{2}$ in
head; eye $3\frac{1}{5}$ to 4, larger than or
subequal with snout, greatly exceeds
interorbital; maxillary reaches
opposite front eye edge, length $4\frac{1}{8}$
in head; mouth small, low, but
little inclined, lower jaw slightly
shorter; many rows of teeth in
both jaws, outer upper row greatly
enlarged, especially in middle;
^{inner row of lower teeth enlarged;}
tongue slightly emarginate; bony
interorbital $\frac{1}{3}$ of eye diameter,
still less in young.

Scales 42 to 44 in lateral
series; 13 transversely. Head naked,
except small patch, longitudinal, behind
eye, of indistinct scales. Line of
papillae from below each nostril
and curves up to mouth angle where
it bends sharply backward and
runs over preopercle short distance;
also line along lower jaw, encircles

1067b

hind preopercle edge and ends in wide open pore. Body covered with small, firmly set, ctenoid scales, but on anterior part of body embedded in skin and cycloid. Predorsal scales not quite reaching eye.

D. VI - I, 6 to 9, first dorsal spine $2 \frac{1}{10}$ in head, first branched ray $1 \frac{3}{4}$; A. I, 8, second ray 3; caudal $1 \frac{1}{8}$, convex behind; least depth of caudal peduncle $2 \frac{1}{4}$; pectoral 1, rays 14 + sixteen free rays; ventral $1 \frac{3}{7}$, fin I, 5.

Young with 4 broad dark bands separated by narrow pale olivaceous interspaces. About middle of body this arrangement replaced by an alternate series of dark and pale spots. Upper surface of head dusky while ventral surface of body pale olivaceous. Pectoral

and vertical fins banded with ^{1067c}
rows of spots or sometimes grayish.
With growth bands gradually
disappear and only row of
elongated longitudinal spots left
along lateral line. With age
fins become dusky or spots on
fins become large and more
pronounced.

Length 37 to 54 mm. (Hora and
Mukerji).

Gobius melanopus Bleeker

Gobius melanopus (Castelnau) Bleeker,
 Nat. Tijds. Ned. Indië, vol. 20, pp.
 (449) 456, 1859-60 (type locality,
 Singapore). — ^{51st Fish.} Fowler, Cat. Malaya
~~Fish.~~, p. 218, 1937 (reference).

Gobius melanurus Bleeker

Gobius melanurus Bleeker, Verh.
 Batavia. Genoot. (Blenn. Gob.),
 vol. 22, p. 31, 1849 (type locality,
 "In mari ad or. Javae insulae";
 Nat. Tijds. Ned. Indië, vol. 1, p.
 10, 1851 (Borneo); vol. 15, p. 224,
 1858 (Tjirautjip, Biliton). —
Günther, Cat. Fish. Brit. Mus., vol.
 3, p. 33, 1861 (copied).

Gobius gymnocephalus Bleeker

Gobius gymnocephalus Bleeker, Nat.
Tijds. Ned. Indie, vol. 4, p. 473, 1853
(Type locality, Batavia, Java);
Ned. Tijds. Dierk., vol. 4, p. 128,
1874 (Hong Kong). — Günther,
Cat. Fish. Brit. Mus., vol. 3, p. 75,
1861 (copied).

Depth 5, elongate, compressed; head 5, convex, obtuse, width $1\frac{1}{2}$. Eye 3 to 4 in head, advanced, close to ^{small,} opposite eye; mouth ^{back,} oblique, reaches ^{little} before eye; teeth small, pluriserial, upper with outer series enlarged conic, no canines;

Scales 20 in lateral series.

D. VI- I, 8, first dorsal lower than body depth, second dorsal and anal pointed; A. I, 8; caudal quadrate, convex behind, length 6 in body; pectoral 5, rays 16; ventral rays I, 5, length 6 in body. Anal papilla conic, pointed.

Color brown. Head, first dorsal and caudal black.

Length 33 mm.

(Bleeker.)

Java.

1070

Gobius microlepidotus Castelnau

Gobius microlepidotus Castelnau,
Victor. Offic. Record Philadelphia
Exhib. (Res. Fish. Australia), p.
20, 1875 (type locality, Cape York).

— Mc Culloch, Austral. Mus.

Mem., No. 5, pt. 3, p. 371, Nov. 28, 1929
(reference).

— Mc Culloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p. 171,
July 7, 1925 (reference).

1071

Gobius microphthalmus Günther

Gobius microphthalmus Günther,
Cat. Fish. Brit. Mus., vol. 3, p. 550,
1861 (on Günther p. 44) — McCulloch,
Austral. Mus. Mem., no.
5, pt. 3, p. 372, Nov. 28, 1929 (ref-
erence).

Gobius macrostoma (not Gobiopsis
macrostomus Steindachner 1860)
Günther, Cat. Fish. Brit. Mus.,
vol. 3, p. 44, 1861 (Australia
[Gould collection]).

1072

Gobius microstomus (Seale)

Vaimosa microstomia Seale, Philippine
Journ. Sci., vol. A. 4, p. 538, 1909
(type locality, Malabon, Rizal
Province, Luzon). — Herre, Gobies
of Philippines, p. 146, 1927 (type).

Mugilogobius microstomus Roxas
and Martin, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p.
234, 1937 (reference).

1073

Gobius mingi (Herre)

Gnatholepis mingi Herre, Bull.
Raffles Mus. Singapore, no. 12, p. 8,
pl. 4, May 1936 (type locality,
Pulau Ubin, a small island
near Singapore); — Herre and
Myers, op. cit., no. 13, p. 40, (type)
Aug. 1937

Depth $3\frac{2}{3}$; head 4. Snout 6 in
head; eye 3, greater than snout,
but slightly invades upper profile
of head; maxillary extends $\frac{1}{3}$ in
eye, length from snout tip $3\frac{1}{6}$ in
head; mouth small, inferior,
horizontal; teeth minute; interorbital
 $1\frac{9}{10}$, broad, flat.

Scales 32 in lateral series; 9
transversely; 8 or 9 predorsal.
Entire body, except snout and
jaws, scaled.

D. VI—I, 7, third spine $1\frac{3}{4}$ in
head, first branched ray $1\frac{1}{2}$; A.
I, 7, first branched ray $1\frac{9}{10}$; least

depth of caudal peduncle $1\frac{1}{2}$; caudal $3\frac{3}{5}$ in rest of fish, convex behind; pectoral $1\frac{1}{4}$, reach $1\frac{3}{5}$ to anal origin; ventral $1\frac{2}{3}$ in head, reaches $2\frac{1}{8}$ to anal origin. Anal papilla $1\frac{2}{3}$ in eye, slender.

Color in alcohol brown with dark brown spot on each scale except on belly, these spots forming longitudinal rows. First dorsal with large black spot on basal half posteriorly, with white band above, and upper margin black. Second dorsal and caudal cross-banded by rows of black spots. Remaining fins colorless, or nearly so.

Length 42 mm.

(Herre.)

Singapore. Said to have an elevated dorsal profile, head and nape noticeably broad and flattened, forming straight line from tip of broadly rounded blunt snout. Also both second dorsal and

anal fall far short of caudal,
and pectorals barely extend
beyond ventrals.

Gobius minimus (Hora)

Ctenogobius minima Hora, Mem.

Indian Mus., vol. 5, p. 749, text-fig.

30, April 1923 (type locality,

Halbano Island, Chilka Lake; 14 other localities listed).

1075

Gobius modestus Bleeker

Gobius modestus Bleeker, Verh.
Batavia. Genoot. (Blenn. Gob.), vol. 22,
p. 28, 1849 (type locality, Surabaya,
Java); (Madura) vol. 22, p. 5, 1849
(Kammal); (Mid. East-Java) vol. 23,
p. 9, 1850.

Depth $6\frac{1}{2}$, body elongate, anteriorly cylindrical, posteriorly compressed; head $4\frac{1}{3}$, obtuse convex, width $1\frac{2}{3}$. Eye 4 in head, in second fourth of its length, close to opposite eye, mouth cleft curved, reaches below front part of eye; teeth small, conic, pluriserial, outer series enlarged, lower jaw with 2 curved lateral canines.

Scales 28 in lateral series. Predorsal scales small.

D. VI - I, 11, first dorsal little lower than body depth, second dorsal and anal somewhat pointed; A. I, 10; caudal obtuse rounded, length 5 in body; paired fins each 6; pectoral rays 19, ~~ventral rays~~ anal papilla conic, acute.

Body and fins green, belly whitish.

Length 61 mm.
Java.

(Bleeker.)

Gobius montalbani (Herre)

Vaimosa montalbani Herre, Philippine Journ. Sci., vol. 59, no. 3, p. 359, pl. 1, fig. 3, March 1936 (type locality, Lake Naujan, Mindoro).

Depth $3\frac{1}{2}$ to $3\frac{2}{3}$; head $2\frac{3}{4}$ to $3\frac{1}{3}$.
Snout 4 to $4\frac{2}{3}$ in head; eye $3\frac{1}{5}$ to $3\frac{1}{2}$; maxillary reaches little behind eye, ^{in male, shorter in female,} length $1\frac{4}{5}$ to $3\frac{1}{5}$ in head; eye enters upper profile of head.

Scales 24 or 25 + 1 or 2 in lateral series; 7 transversely, 6 predorsal in male 7 in female. Muzzle and cheeks naked, opercle scaly.

D. VI-I, 7, first spine elongate and thread like or $2\frac{1}{2}$ in fish without caudal, first branched $1\frac{3}{5}$ in head, last ray $1\frac{2}{5}$; A. I, 6 or 7,

1076a

first ray $2\frac{1}{5}$, last ray $1\frac{2}{3}$; caudal 1,
convex behind; least depth of
caudal peduncle $2\frac{3}{5}$; pectoral $1\frac{1}{5}$;
ventral $1\frac{1}{4}$.

Males pale yellowish brown in
alcohol, with dark brown spots
and scales sprinkled over upper
half. Dark brown spot at upper
angle of opercle. Row of 4 dark
brown spots along middle of
side. Large blackish brown spot
at caudal base, often with pale
center. Row of black spots under
anal and caudal peduncle. Behind
pectoral dark brown vertical bar,
and similar bar crosses belly over
anus. Sides of head mottled with
yellowish and dusky brown. First
dorsal deep black above and
posteriorly, with a dusky basal
crossbar and 2 black spots on
anterior margin, rest of fin clear.
Soft dorsal and caudal each have

2 or 3 dusky brown crossbars.

Pectoral clear. Anal and ventral membranes dusky.

Length 14 to 20 mm. (Herre.)

Lake Nauyan, Mindoro. Close to Vaimosa dispar (Peters), but differs in scalation, color markings and elongated first dorsal spine. In agreement is the large mouth and elongated maxillary of the males in both species.

1077

Gobius multifasciatus (Herre)

Rhinogobius multifasciatus Herre,
Gobies of Philippines, p. 190, pl. 14, fig.
1, 1901 (type locality, Iloilo, mouth
of Jaro River, Panay).

Ctenogobius multifasciatus Herre,
Fish. Herre Philippine Exped. 1931, p.
85, 1934 (Bauang Sur, Luzon). —
Roxas and Marten, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p.
226, 1937 (reference).

One example. Iloilo market,
Panay. June 1, 1908. Length 48 mm.
Seems to agree with Herre's
figure though the dark transverse
lines on the belly are not present
as he shows.

One example. Shore above Iloilo
River. June 2, 1906. Length 38 mm.

Depth $3\frac{7}{8}$ to $4\frac{1}{8}$; head $3\frac{2}{5}$ to $3\frac{1}{2}$, width $1\frac{2}{3}$. Snout $3\frac{1}{3}$ to $3\frac{2}{3}$ in head; eye $3\frac{1}{2}$ to 4, 1 to $1\frac{1}{5}$ in snout, greater than interorbital; maxillary reaches opposite front eye edge, $2\frac{1}{2}$ to $2\frac{4}{7}$ in head; mouth cleft oblique, front end begins slightly below level of lower eye edge; teeth in bands in jaws, outer row little enlarged, above, and lower jaw with similar but shorter row ending in pair of lateral canines curved backward; interorbital $\frac{1}{3}$ to $\frac{1}{2}$ in eye.

Scales 28 or 29 in lateral series; 9 or 10 transverse at second dorsal. Sides of ^{predorsal} ~~head~~ forward above opercle scaly, median area to first dorsal naked, head otherwise naked.

D. VI - I, 9, third spine 3 in head, first branched dorsal ray

2 in head, penultimate ray $1\frac{4}{5}$,
A. I, 9, first branched ray $2\frac{3}{4}$,
penultimate ray $1\frac{4}{5}$; caudal $1\frac{1}{4}$,
convex behind; least depth of
caudal peduncle $2\frac{3}{4}$; pectoral
 $1\frac{1}{4}$; ventral $1\frac{1}{4}$.

Gray brown, with 12 to 15
dark brown narrow transverse
streaks, below on abdomen form
as 5 narrow blackish lines across
belly. In back and upper sides
small blackish or dark spots.
in scale junctures form longitud-
inal series. Dark bar on preorbital
from lower front eye edge to maxillary.
First dorsal with 2 longitudinal
dark bands, lower blackish. Soft
dorsal and caudal with dark spots.
Pectoral with dark basal spot above.
Ventral dark marginally.

Philippines.

One example. Cebu market. March 20, 1909. Length 40 mm.

Two examples. Cebu market. March 22, 1909. Length 57 to 65 mm. Larger agrees with the Iloilo specimens and is without any narrow dark lines transversely across the belly.

19384. Iloilo market. March 28, 1909. Length 56 mm.

One example. Iloilo market. June 1, 1908. Length 56 mm.

Six examples. Iloilo, shore above Iloilo River, Panay. June 2, 1908. Length 50 to 68 mm. [648.] Two of these specimens without the narrow dark lines transversely or vertically crossing the belly, otherwise with dark brown border to ventrals.

1081a

Gobius myxodermus (Herre)

Ctenogobius myxodermus Herre,
Lingnan Sci. Journ., vol. 14, no. 3,
p. 395, July 1, 1935 (type locality,
Lingnan University, Honan Island,
Canton, China; Kwangsi University,
Wuchow, Kwangsi Province).

Depth 4 to 5; head $3\frac{1}{5}$ to $3\frac{2}{5}$,
broad. Snout $3\frac{1}{2}$ in head; eye
 $4\frac{1}{3}$ to $4\frac{2}{3}$; mouth oblique, reaches
 $\frac{1}{2}$ in eye or nearly so, lower jaw
included; teeth very small, in
bands, outer upper row trifle
enlarged; interorbital $2\frac{1}{2}$ to $2\frac{3}{5}$.

Scales 38 to 42 in lateral
series; 14 transversely, 12 to 15
predorsal. Small scales much
larger on posterior part of
body. Scales on predorsal and
above pectoral base minute. Head
entirely naked.

D. VI, I, 8, third spine longest,
tips of first 3 spines more or less

thread like; dorsals and anals low, last rays longest but not reaching caudal when depressed; A. I, 7, J caudal broadly rounded; pectoral broad; ventrals short, with well developed frenum and may extend only about half way to anus.

Color in life Butter yellow to yellowish gray, with dusky markings along scale margins on upper half of body, which form blotches most conspicuous posteriorly. Conspicuous yellow band on upper part of first dorsal and large basal black spot of striking appearance on hind part, rest of fin dusky or dusky yellow. Second dorsal with 2, rarely 1, longitudinal yellow bands, rest of fin more or less blackish, or with a median band of black vertical bars. Pectorals colorless to yellow. Other fins all more or less yellow, speckled with cross bars of dusky dots, or anal may be clear yellow.

Length 10 to 32 mm.

1081c
(Herre.)

China. In life this little goby was
is noticeable for the great quantity
of slime with which it is covered
and which often conceals its colors.

Gobius nebulosus Forskål

1082

Gobius nebulosus Forskål, Descript.
Animal., pp. 10, 24, 1775 (type locality,
Sjædda, Red Sea). — Bonnaterre,
Tabl. Ichth., p. 64, 1788 (copied).
— Gmelin, Syst. Nat. Linn., pt. 1,
p. 1198, 1788 (copied). — Walbaum,
Artedii Pisc., vol. 3, p. 199, 1792
(copied). — Lacepède, Hist. Nat.
Poiss., vol. 2, pp. 537, 567, 1800
(Arabia). — Schneider, Syst. Ichth.
Bloch, p. 72, 1801 (copied). — Valenciennes,
Hist. Nat. Poiss., vol. 12, p. (63) 84,
1837 (copied).

— Taniyama, Jap. Journ. Zool., vol. 7, no.
1, p. 67, Oct. 25, 1936 (Kaze; Jolo).

Rh

Rhinogobius nebulosus Jordan and Seale,
 Bull. Bur. Fisher., vol. 25, p. 401, 1905
 (1906) (Vaisigano R. at Apia); vol. 26,
 p. 41, 1906 (Hawaii). — Jordan and
Richardson, Bull. Bur. Fisher., vol.
 27, p. 276, 1908 (Manila; Aparri);
 Philippine Journ. Sci., p. 47, 1910 (reference).
 — Seale, Philippine Journ. Sci., vol. 5,
 no. 4, p. 285, 1910 (Sandakan, Borneo).
 — McCulloch and Ogilby, Rec. Austral.
 Mus., vol. 13, p. 245, 1919 (Shark Bay,
 West Australia; Port Darwin; Swains
 I.; Cape York; Thursday I.; Darnley I.;
 — McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 172, July 7, 1925 (reference).
 New Hebrides; Madras). — Fowler, Proc.
 Acad. Nat. Sci. Philadelphia, vol. 79, p.
 290, 1927 (Philippines); Mem. Bishop
 Mus., vol. 10, p. 410, 1928 (Pelew Is.;
 Fata; Raiatea; Apia). — Fowler, Proc. Acad. Nat.
 Sci. Philadelphia, vol. 86, p. 82, fig. 23,
 1934 (Den Pasar, Bali); Mem. Bishop
 Mus., vol. 11, no. 6, p. 443, 1934 (Bila, New
 Hebrides). — Roxas and Martini, Departm.
 Agric. Comm. Manila, Techn. Bull. 6, p. 227,
 1937 (reference).

Lit. Füh. 1027

Otenogobius nebulosus Fowler, Cat. Malaya,
~~Zool.~~ p. 215, 1937 (Malaya ^{reference}).

Gobius criniger Valenciennes, Hist. Nat.
Pois., vol. 12, p. (62) 82, 1837 (type
locality, Dorey Harbor, Papua; Malabar).
— Richardson, Ichth. Voy. Erebus and
Terror, p. 2, pl. 1, figs. 3-4, 1844
(North west coast Australia). —
Cantor, Journ. Asiatic. Soc. Bengal,
vol. 18, pt. 2, p. 1166, 1849 (1850)
(Penang). — Bleeker, Nat. Tijds. Ned.
Indie, vol. 3, p. (445) 453, 1852
(Banka); Verh. Batavia. Genoot.
(Ned. Ichth. Bengal), vol. 25, p. 50,
1853 (reference); Nat. Tijds. Ned.
Indie, vol. 6, p. 458, 1854 (Amboina);
vol. 7, p. 313, 1854 (Batun); vol. 9,
p. 283, 1855 (Macassar); Ned. Soc.
Sci. Ind. Neerl., vol. 1, no. 3, p. 5, 1856
(Manado), p. 8 (Macassar); vol. 2, no.
7, p. 6, 1857 (Amboina); Nat. Tijds.
Ned. Indie, vol. 16, p. 29, 1858 (Amboina);

1085

vol. 20, p. 141, 1859-60 (Badjóa, Bali),
pp. 238, 449 (Singapore). — Günther,
Cat. Fish. Brit. Mus., vol. 3, p. 29,
1861 (Madras; Pinang; North-west
Australia; Port Essington). — Day,
Fishes of Malabar, p. 111, 1865. — Blache,
~~Blache~~, ~~Verslag. Kon. Akad. Wet. Amsterdam~~, ser. 2, vol. 7, p. 36, 1873 (Amst.).
— Schmeltz, Cat. Mus. Godeffroy, no. 6,
p. 14, 1877 (South Sea). — Alleyne
and Macleay, Proc. Linn. Soc. New
South Wales, vol. 1, p. 330, 1877
(Darnley Island). — Day, Fishes of
India, pt. 2, p. 288, pl. 62, fig. 2,
1878. — Macleay, Proc. Linn. Soc.
New South Wales, vol. 2, p. 356, 1878
(Port Darwin); vol. 5, p. 595, 1881
(North-west coast). — Károli, Termesz.
Füzetek, Budapest, vol. 5, p. 164,
1881⁽¹⁸⁸²⁾ (Serangoon). — Weber, Siboga
Exped., vol. 57, ^{Fishes} pp. 461, 1913 (Siam;
Lanun; Tual).

1086

— Fowler, Proc. Acad. Nat. Sci. Phila-
delphia, vol. 77, p. 262, 1925 (Delagoa
Bay). — Fowler and Bean, Proc.
U. S. Nat. Mus., vol. 71, art. 10, p. 11,
1927 (Benkoelan). — Barnard,
Ann. South African Mus., vol. 21, pt.
2, p. 820, Oct. 1927 (Delagoa Bay;
Mozambique).

Ctenogobius criniger Bleeker, Arch.
Néerl. Sci. Nat. Harlem, vol. 13, p. 54,
1878 (reference). — Herre, Fishes
Herre 1931 Philippine Exped., p. 84, 1934
(Lingayen; Malabon; Molavin brook;
Lemery; Culion; Cebu; Jolo). — Roxas
and Martin, Departm. Agric. Comm. Manila,
Techn. Bull. 6, p. 226, 1937 (reference).

Coryphopterus criniger Seale, Ocean.
Pag. Bishop Mus., vol. 4, no. 1, p. 84,
1906 (Raiatea).

Ctenogobius nebulosus Fowler, Cat. Malay.
Fish., p. 215, 1937 (Malaya).

Gobius criniger Valenciennes, Hist. Nat.
Pois., vol. 12, p. (62) 82 (type locality,
Dorey Harbor, Papua; Malabar). —

Richardson, Ichth. Voy. Erebus and
Terror, p. 2, pl. 1, figs. 3-4, 1844.

(North west coast of Australia). —

Cantor, Journ. Asiatic Soc. Bengal,
vol. 18, pt. 2, p. 1166, 1849 (1850)

(Penang). — Günther, Cat. Fish.

Brit. Mus., vol. 3, p. 29, 1861 (Madras;
Pinang; North west Australia;
Port Essington).

— Bleeker, Nat. Tijds. Ned. Indie, vol. 3,
p. 453, 1852 (); vol. 20, pp.
239, 449, 1859-60 (Singapore).

— Day, Fishes of Malabar, p. 111, 1865.
— Schmeltz, Cat. Mus. Godeffroy, no. 6,
p. 14, 1877 (South Sea).

Rhinogobius criniger Herre, Gobies of
Philippines, p. 191, pl. 14, fig. 2, 1927
 (Buquoy R.; Laguna de Bay; Pasay;
 Balayan Bay; Puerto Galera; Ansan;
 Capi; Iloilo; Dumaguete; Bantayan;
 Cebu; Cabalian; Borongan; Cagayan;
 Balabac; Spring; Buan I.)
Ctenogobius criniger Shuvatti, Index Fish. Siam,
 p. 153, 1936 (Ko Chang; Sriracha; Lanthaburi R.; Pattani; Singkhla;
 Lam Hong; Maenam Thap Sip).
Gobius brevifilis Valenciennes, Hist. Nat.
Poiss., vol. 12, p. (68) 90, 1837 (type
 locality, Pondichery). — Bleeker, Verh.
Batavia. Genoot. (Nat. Ich. Bengal),
 vol. 25, p. 50, 1853 (reference). — Day,
Proc. Zool. Soc. London, p. 940, 1867
 (Madras). — Günther, Journ.
Mus. Godeffroy, vol. 6, pt. 11, p. 176,
 pl. 108, fig. g, 1877 (Pelew Is.). —
Schmeltz, Cat. Mus. Godeffroy, no. 6,
 p. 14, 1877 (Pelew Is.).

Gobius atherinoides Peters, Archiv
 Naturg., p. 254, 1855 (type locality,
 Mozambique). — Günther, Cat. Fish.
 Brit. Mus., vol. 3, p. 18, 1861 (copied).
 — Sauvage, Hist. nat. Madagascar,
 Poiss., p. 353, 1891 (type).

Gobius caninus var. ^{ietas} africanus ^{Günther} ~~Playfair~~,
 Fishes of Zanzibar, p. 71, ~~pl. 9, fig. 1~~
 1866 (type locality, Zanzibar).

— Steindachner, Sitzb. Ber. Akad.
 Wiss. Wien, vol. 56, pt. 1, p. 313, 1867 (Cape York).
Gobius caninus (not Valenciennes) Günther, p. cit., pl. 9, fig. 1.2

Gobius auchenotaenia Bleeker, Arch.
 Néerl. Sci. nat. Harlem, vol. 2, p. 415, 1867
 (type locality, Madagascar); Faune
 Madagascar, Pollen et van Dam, ^{pt.} vol. 3,
 p. 56, pl. 18, fig. 1, 1874 (types).

— Sauvage, Hist. nat. Madagascar,
 Poiss., p. , pl. 39, fig. 3, 1891 (copied).

1089

Gobius festinus de Vis, Proc. Linn. Soc.
New South Wales, vol. 9, p. 687, 1884
(type locality, Cape York).

Rhinogobius corallinus Jordan and
Seale, Bull. Bur. Fisher., vol. 25, p.
400, fig. 89, 1905 (1906) (type locality,
Pago Pago).

Rhinogobius lungi Jordan and Seale,
op. cit., vol. 26, p. 41, fig. 13, 1906 (1907)
(type locality, Cavite).

Rhinogobius baliuroides (not Bleeker)
Fowler, Proc. Acad. Nat. Sci. Phila-
delphia, vol. 86, p. 82, fig. 127,
1934 (Den Pasar, Bali).

1090

Depth $4 \frac{1}{2}$; head $3 \frac{1}{8}$ to $3 \frac{1}{4}$, width $1 \frac{3}{5}$. Snout 3 to $3 \frac{1}{10}$ in head; eye $3 \frac{1}{10}$ to $3 \frac{1}{8}$, subequal with snout, greatly exceeds interorbital; maxillary reaches front eye edge, length $2 \frac{1}{2}$ to $2 \frac{2}{3}$; mouth large, jaws equal; teeth small, in narrow bands in jaws, outer series slightly enlarged; tongue broadly convex in front; interorbital 7, narrow, level. Gill rakers ~~4~~+6, lanceolate, $1 \frac{1}{4}$ in gill filaments, which $2 \frac{1}{3}$ in eye.

Scales 29 or 30 + 3 in median lateral series; 13 or 14 transversely, 7 or 8 imbedded predorsal scales, region largely naked. Cheek with 3 horizontal rows of minute pores of which 2 lower double rows; row from behind eye to suprascapula; row across opercle, along preopercle flange and forward on under mandibular face. Scales with 19 or 20 basal radiating striae; apical denticles 16 or 17 + 13 to 16; circuli minute.

D. VI — I, 9, 1, second spine terminally filamentous, $1 \frac{1}{8}$ to $1 \frac{1}{4}$ in head, first ray $1 \frac{7}{8}$; A. I, 9, 1, fourth ray $2 \frac{2}{5}$; caudal 1, rounded; least depth of caudal peduncle $2 \frac{1}{3}$; pectoral $\frac{1}{5}$ to $1 \frac{1}{4}$; ventral $1 \frac{1}{5}$ to $1 \frac{1}{2}$.

Brown, little paler on under surface of head and belly. Middle of side with 3 large rounded dusky brown blotches, each little larger than eye and last at caudal base. Back mottled with darker brown than body color and dusky brown blotch at base of spinous dorsal posteriorly or before soft dorsal.

Fins pale, spinous dorsal with 2 or 3 dusky blotches on each spine and soft dorsal with 3 or 4 longitudinal dusky brown bands. Caudal with several dark transverse bands basally. Anal with lower edge dusky. Paired fins pale.

Zanzibar, Mozambique, Delagoa Bay, Madagascar, India, Burma, Malaya, East Indies, Philippines, Northern Territory Australia, Western Australia, Queensland, Melanesia, Micronesia, Polynesia.

U. S. N. M., no. 87964. Benkoelen,
Sumatra. December 14, 1925. Lieut.
H. C. Kellers. Length 79 mm.
As Gobius criniger.

U. S. N. M., no. 52239. Apia, Samoa.
Bureau of Fisheries. Length
98 mm.

U. S. N. M., no. 72158. Aparri,
Philippines. R. C. Mc Gregor.
Length 122 mm. Iloilo.

U. S. N. M., no. 53069. Panay,
Philippines. Dr. G. L. Lung. "Cotype"
[= paratype] of Rhinogobius lungi
Jordan and Seale. Length 40 to
94 mm. Two examples.

A. N. S. P., three examples.
Delagoa Bay, Portuguese East
Africa. 1922. H. W. Bell Marley.
Length 98 to 111 mm.

Two examples. Batan Island.
 Tide pools. July 22, 1909. Length
 18 to 30 mm. These specimens
 show most of predorsal scaleless,
 dark bar from lower front eye
 edge forward over middle of
 maxillary to lower face of
 mandible, ^{dark} blotch on upper base
 of pectoral and another lower
 subbasal, and dark transverse
 caudal bar. Dark area below
 spinous dorsal inclined little
 forward behind pectoral base.

One example. Cebu market. April
 5, 1908. Length 92 mm.

One example. Cebu, reef opposite.
 April 7, 1908. Length 34 mm.

Four examples. Cebu market.
 August 28, 1908. Length 47 to 68 mm.

One example. Cuyo Island.
 April 9, 1909. Length 80 mm.

One example. Cotabato, below mouth of river,
 Mindanao. May 20, 1908. Length 60 mm.

Eight examples. East side of
Tagbalaran Strait, Bohol Island.
April 9, 1908. Shore seine. Length
42 to 53 mm.

19383. Iloilo market. March 28,
1908. Length 62 mm.

One example. Manila Bay, Luzon.
December 6, 1907. Length 67 mm.

One example. Pucot River,
Mariveles. January 29, 1909. Length
41 mm.

One example. Sandakan Bay,
Borneo. March 24, 1908. Length 67 mm.

U. S. National Museum

1096

Gobius neophytus Günther

- Gobius neophytus Günther, Journ.
Mus. Godeffroy, vol. 6, pt. 11, p. 174,
pl. 108, fig. 2, 1877 (type locality,
Ponapé; Rapa; Huahine; Tahiti).
— Schmeltz, Cat. Mus. Godeffroy,
no. 6, p. 14, 1877 (Raiaatea).
Boulenger, Ann. Mag. Nat. Hist.
London, ser. 6, vol. 20, p. 373, 1897
(Rotuma). — McCulloch, Austral.
Mus. Mem., no. 5, pt. 3, p. 371, Nov. 28,
1929 (reference).
McCulloch, Proc. Linn. Soc. New South Wales,
vol. 36, p. , 1912 (Murray I.). — McCulloch
and Whitley, Mem. Queensland Mus., vol. 8,
pt. 2, p. 170, July 7, 1925 (reference).
— Tomiyama, Jap. Journ. Zool., vol. 7, no. 1,
p. 65, Oct. 25, 1936 (Ryukyu).

Gobius melanurus Bleeker

Gobius melanurus Bleeker, Nat. Tijds.
ned. Indie, vol. 13, p. 284, 1857 (Type
locality, Tjiroutjip, Biliton).

Rhinogobius neophytus Jordan
 and Seale, Bull. Bur. Fisher.,
 vol. 25, p. 400, ^{pl. 37, fig. 2,} 1905 (1906) (Pago
 Pago; Apia, Samoa). —
~~Herre~~, Gobies of Philippines,
 p. 195, pl. 14, fig. 4, 1927 (Canigaran;
 Puerto Galera). — Fowler,
 Mem. Bishop Mus., vol. 10, p. 411,
 1928 (type).

Herre, Fish. Herre Philippine Exped. 1931, p. 85,
 1934 (Sitambai). — Roxas and Martin, Departm.
 Agric. Comm. Manila, Tech. Bull. 6, p. 226, 1937 (reference).

Ctenogobius neophytus Herre, Field
 Mus. Public., no. 353, Zool. ser. vol. 21,
 p. 369, April 15, 1936 (Fiji).

Rhinogobius muscarum Jordan and
Seale, Bull. Bur. Fisher., vol. 25,
 p. 401, fig. 90, 1905 (1906) (type
 locality, Pago Pago).

Gobius grammepomus Bleeker

Gobius grammepomus Bleeker,
Nat. Tijds. Ned. Indië, vol. 9, p. 200,
18 (type locality,);
Art. Soc. Sci. Ind. Néerl. (Nicht.
Sumatra), vol. 8, p. 41, Feb. - Aug.
1859 (Telokbetong; Padang).

Depth $4\frac{1}{2}$ to $4\frac{4}{5}$; head 3 to $3\frac{1}{5}$.
 Snout 3 to $3\frac{1}{5}$ in head; eye $3\frac{1}{4}$ to $3\frac{2}{5}$, subequal with snout, very close set; maxillary reaches back below front eye edge, length $2\frac{1}{2}$ in head; mouth oblique, ~~front~~ begins in front level with lower eye edge, mandible slightly protrudes in front; band of fine, slender, pointed teeth in each jaw, outer row little enlarged; inter-orbital very narrow or linear.

Scales 23 or 24 in lateral series; 7 transversely at second dorsal, 7 along each side of predorsal forward to eyes, median region of predorsal noded like rest of head.

D. VI—I, 9, first spine $1\frac{1}{2}$ to $1\frac{3}{5}$ in total head length, first branched ray $1\frac{3}{4}$ to $1\frac{4}{5}$, penultimate ray $1\frac{1}{2}$ to $1\frac{3}{5}$; A. I, 8, first branched

1099

ray $1\frac{7}{8}$ to 2, penultimate ray $1\frac{2}{3}$ to $1\frac{3}{4}$; caudal 1 to $1\frac{1}{6}$, rounded behind; least depth of caudal peduncle $2\frac{7}{8}$ to 3; pectoral 1 to $1\frac{1}{8}$, rays 14; ventral rays I, 5, fin $1\frac{1}{3}$ to $1\frac{2}{5}$ in total head length.

Pale gray to whitish, dusted with minute gray dots on upper surfaces. Median lateral series of black specks or spots, somewhat irregular in size, with usually last at caudal base most distinct. First dorsal with dark gray terminal spot on first membrane. Second dorsal and caudal with 4 or 5 series of dark spots on each ray.

East Indies, Philippines, Riu Kiu, Polynesia.

U. S. N. M., no. 52268. Apia, Samoa.
Bureau of Fisheries. Length 35 to
38 mm. Two examples. As
Rhinogobius neophytes.

U. S. N. M., no. 51782. Pago Pago,
Samoa. Bureau of Fisheries.
Length 21 mm. Type of Rhino-
gobius muscarum.

One example. Great Tobea Island,
Dutch East Indies, tide pool.
December 15, 1909. Length 35 mm.

1102

Gobius nigroocellatus Günther

Gobius nigroocellatus Günther,
Journ. Mus. Godeffroy, vol. 1, pt. 2,
p. 101, 1874 (type locality, Bowen,
Queensland); — McCulloch,
Austral. Mus. Mem., no. 5, pt. 3,
p. 371, Nov. 28, 1929 (reference).

— Macleay, Proc. Linn. Soc. New South Wales,
vol. 5, p. , 1881 (Bowen). — McCulloch
and Whitley, Mem. Queensland Mus., vol. 8,
pt. 2, p. 171, July 7, 1925 (reference).

Gobius nuchifasciatus Günther

Gobius nuchifasciatus Günther,
Journ. Mus. Godeffroy, vol. 1, pt. 4,
p. 266, 1874 (type locality, Bowen,
Queensland). — Macleay, Proc. Linn.
Soc. New South Wales, vol. 5, p. 1881
(copied).

Zonogobius nuchifasciatus McCulloch
McCulloch, Austral. Mus. Mem., no. 5, pt.
3, p. 376, Nov. 28, 1929 (reference).
McCulloch and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 172, July 7, 1925
(reference).

Zonogobius semidoliatus (not Valenciennes)
McCulloch, Proc. Linn. Soc. New South Wales,
vol. 36, p. 1912 (Dunk I.; Masthead I.,
Queensland).

1104

Gobius nuchi-punctatus (Herre)

Ctenogobius nuchi-punctatus Herre,
Journ. Pan-Pac. Res. Inst., vol. 8,
no. 4, p. 10, 1933 (type locality,
Dumaguete, Oriental Negros,
Philippines) (name only); Fish.
Herre Philippine Exped. 1931, p. 85,
(1934) (type locality, Dumaguete).
— Roxas and Martin, Departm.
Agric. Comm. Manila, Techn. Bull.
60, p. 226, 1937 (reference).

Gobius nudiceps Valenciennes

- Gobius nudiceps Valenciennes, Hist. Nat. Poiss., vol. 12, p. (49) 65, 1837 (type locality, Cape of Good Hope). — Castelnau, Mém. Poiss. Afrique Australe, p. 55, 1861 (South Africa). — Boulenger, Cat. Fresh Water Fish. Africa, vol. 4, p. 28, 1916 (types). — Hampson, Mar. Biol. Rep. South Africa, vol. 4, p. 131, 1918 (reference). — Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 816, pl. 32, fig. 5, Oct. 1927 (Table Bay; False Bay; East London; Natal).

Amoya nudiceps Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 497, Nov. 6, 1934 (Natal; Durban).

? Gobius olivaceus Castelnau, Mém.

Poiss. Afrique Australe, p. 55, 1861
(type locality, South Africa).

? Gobius capensis Castelnau, l.c. (type locality, South Africa).

Gobius caffer Günther, Ann. Mag. Nat. Hist. London, ser. 4, vol. 14, p. 453, 1874 (type locality, Port Elizabeth).

Gobius natalensis Günther, op. cit. (type locality, Port Natal).

Regan, Ann. Durban Mus., vol. 2, pt. 2, p. 77, 1918 (Natal).

Gobius gymnauchen (not Bleeker) Weber, Zool. Jahrb. Syst., vol. 10, p. 144, 1897.

Gobius gilchristi Boulenger, Marine Investig. South Africa, vol. 1, p. 8, 1898.

(type locality, Brak River, Mossel Bay);
Cat. Fresh Water Fish. Africa, vol. 4, p. 27, fig. 16, 1916 (types).

Thompson, Marine Biol. Rep. South Africa, vol. 4, p. 129, 1918.

(1107)

Depth $4\frac{3}{5}$ to $4\frac{3}{4}$; head 3 to $3\frac{2}{5}$,
width $1\frac{1}{3}$ to $1\frac{1}{2}$. Snout $3\frac{3}{4}$ to 4.
in head from snout tip; eye $4\frac{2}{5}$
to $4\frac{1}{2}$, 1 to $1\frac{1}{8}$ in snout, greater
than interorbital; maxillary
reaches $\frac{1}{2}$ in eye, length $2\frac{1}{3}$ to
 $2\frac{2}{5}$ in head from snout tip;
lips broad, lower forms free
crease across symphysis; teeth
fine, in bands in jaws, outer
row in each little enlarged;
tongue broadly rounded in front;
interorbital $8\frac{1}{4}$ to 10, level.
Gill rakers 1+10, lanceolate,
 $1\frac{2}{3}$ in gill filaments, which
 $1\frac{1}{2}$ in eye.

Scales 50 to 53 + 3 in median
lateral series; 17 or 18 transversely,
predorsal naked. Cheek with
6 vertical rows of papillae from

eye, crossed by 2 horizontal rows, one median and other low, small preocular row, another postocular, 3 short parallel rows above nostrils, vertical row on opercle close behind preopercle edge and short horizontal bar below, row along lower edge of each mandibular ramus and lower preopercle edge, also row in mandibular crease below, 2 short horizontal rows close above opercle. Scales with 12 to 15 basal radiating striae; 15 to 25 apical denticles, rather large, uniform; circuli coarse.

D. VI - I, 10, I, second spine $1\frac{3}{5}$ to $1\frac{4}{5}$ in total head length, ninth ray $1\frac{1}{3}$ to $1\frac{1}{2}$; A. I, 9, I, eighth ray $1\frac{1}{3}$ to $1\frac{2}{5}$; caudal 1, convex behind; least depth of caudal peduncle $2\frac{1}{2}$; pectoral

1109

1 to $1\frac{1}{8}$; ventral $1\frac{1}{3}$ to $1\frac{2}{5}$. Anal papilla long as eye.

Brownish number generally, scarcely paler below. Side of body with about 16 indistinctly defined dark or dusky transverse streaks or bars, variously broken or irregular, though not encroaching on under surface. Head and predorsal speckled with darker, also some on cheeks. Edge of gill opening pale. Iris gray. Lips livid. Ventral drab. Fins all dull brownish, with narrow pale subbasal longitudinal band, bordered above and below with gray brown. Soft dorsal with similar, pale, narrow, subbasal lateral band, bordered above and below only by dark spot on each fin ray. Anal with each membrane terminally with

dark brown transverse streaks,
darkest terminally. Caudal with
few scattered dark basal spots.
Pectoral clouded darker basally
or with several pale or dark
indistinct spots. Ventral
membranes with more or less
dusky.

South Africa, Natal.

A. n. S. P., three examples. Durban,
Natal. 1931. H. W. Bell Marley.
Length 70 to 82 mm.

A. n. S. P., four examples. Durban.
1932. H. W. Bell Marley. Length
38 to 51 mm.

U. S. N. M., no. 93640. Cape
Agulhas, South Africa. Albany
Museum. Length 87 mm.

1112
Gobius ocellatus (Fowler)

(not Steindachner 1868, Day 1873)

Tubagobius ocellatus, Fowler, Proc.
Acad. Nat. Sci. Philadelphia,
vol. 89, p. 250, fig. 261, May 19, 1937
(type locality, Kemrat, Siam)
(error).

Coryphopterus Gill, op. cit., vol. 15,
p. 263,

Depth $5 \frac{1}{5}$ to $5 \frac{2}{5}$; head 3 to $3 \frac{1}{6}$, width $1 \frac{1}{3}$ to $1 \frac{2}{5}$. Snout $3 \frac{1}{3}$ to $3 \frac{1}{2}$ in head; eye $5 \frac{1}{3}$ to $5 \frac{3}{4}$, $1 \frac{3}{5}$ to $1 \frac{3}{4}$ in snout, greatly exceeds bony interorbital; maxillary reaches $\frac{2}{5}$ to $\frac{1}{2}$ in eye, length $2 \frac{1}{2}$ to $3 \frac{1}{2}$ in head;

21 Jan 1904 to 1905. All measurements

lower jaw slightly included; lips ^(11/14)
broad, smooth, thick, fleshy; tongue
spatulate, slightly convex in front;
teeth small, conic, simple, strong,
uniform, in 4 or 5 rows in front of
each jaw which narrow posteriorly;
interorbital 6 to $7\frac{1}{4}$ in head, low,
nearly level. Gill rakers $3 + 5$, short,
low pointed, knob like, about $\frac{2}{5}$ of
gill filaments, which $\frac{2}{5}$ of eye.

Scales 43 to 45 + 4 or 5 in
median lateral series; 15, ^{to 17} transversely
between soft dorsal and anal
origins; 18 to 22 predorsal scales
^{Breast scaly. median naked strip from behind ventral base}
forward to occiput. Caudal
scaly. Head naked, with very fine,
inconspicuous and mostly short rows
of papillae, best indicated by means
of the accompanying figure. Scales
with 9 to 16 radiating basal striae;
33 to 50 apical denticles; circuli
fine basally, coarser to obsolete apically.
D. VI, I, 10, I or I, 11, I, third spine
 $1\frac{4}{5}$ to 2 in head, first branched
ray 2 to $2\frac{1}{2}$; A. I, 9, I, seventh
branched ray 2 to $2\frac{1}{5}$; caudal

jaws about.

1116
 $1\frac{1}{3}$ to $1\frac{2}{5}$, convex behind; least depth of caudal peduncle $2\frac{3}{4}$ to 3; pectoral $1\frac{1}{3}$ to $1\frac{2}{5}$, rays 16; ventral I, 5, front edge of ventral disk as broad bilobate flap, fin length $1\frac{2}{3}$ to $1\frac{4}{5}$. Vent little nearer anal origin than tips of depressed ventrals, with rather long conic papilla $\frac{2}{3}$ of eye.

Brown, with 7 or 8 transverse ill defined saddles across middle of back; these variously distinct, variably wide or narrow, or even as double transverse bands, and usually with more or less mottled or marbled appearance; not extending on lower sides or under surfaces, which uniform whitish. Upper surface of head with variable brownish blotches, more or less streaked longitudinally. Iris gray, jaws and lips dull brownish. First dorsal brownish, paler basally, and 5 dark blotches on each spine. Soft dorsal similar, with paler or whitish upper anterior border.

116

Caudal brownish, clouded or blotched with darker to blackish, especially in smaller specimens, - and dark or blackish blotch at bases of upper rays usually large and distinct. Anal Dark brown. medially, pale basally and with broad whitish lower border. Pectoral brownish, with small black ^{white-bordered} ocellus at origin and more or less distinct whitish subbasal bar. Ventral whitish.

A. N. S. P., No. 68, 248. Kemrat, Siam. Length 103 mm. Type. Also Nos. 68, 249 to 68, 251, same data, paratypes. Length 78 to 80 mm. Known by its coloration, especially the pectoral ocellus and dark blotch at the upper basal part of the caudal, though this less distinctive as sometimes an obscure lower or even median blotch may be present.

1117

Gobius ocheticus (Norman).

Pomatoschistus (Minia) ocheticus
Norman, Trans. Zool. Soc. London,
vol. 22, p. 1927 (type locality).

1117a

Gobius oligolepis Bleeker

1076

Gobius montalbani (Herre)

Vaimosa montalbani Herre, Philippine
Journ. Sci., vol. 59, no. 3, p. 359, pl. 1,
fig. 3, March 1936 (type locality,
Lake Nauyan, Mindoro).

Depth $5\frac{1}{2}$ to 6, body elongate, compressed; head 5, obtuse convex, width $1\frac{3}{4}$.

Snout obtuse, well convex; eye 3 and little in head, advanced, close to opposite eye; maxillary reaches below ^{posterior part} front of eye; ^{mouth little inclined;} teeth in jaws pluriserial, above outer and inner series enlarged, below scarcely enlarged; no canines; postocular groove distinct; interorbital $\frac{1}{2}$ of eye.

Scales 22 in lateral series.

Predorsal and head naked.

D. VI— I, 10 or I, 11, close set, anterior produced flexible spines scarcely higher than body depth; second dorsal obtuse, pointed behind, first ray flexible; A. I, 11 or I, 12, not lower than second dorsal, pointed behind; caudal obtuse, rounded, length $3\frac{4}{5}$ in body; pectoral little over 5, rounded, upper rays silky, rays 20 or 21; ventral rays I, 5, fin 6 in body. Anal papilla oblong, conic. Body pale green. Black band

117c
from eye to opercle. Head and back
with small greenish violet spots;
on sides irregular, large and moderate,
oblong, in 9 transverse rows.

Second dorsal pale violaceous,
yellow terminally with 2 or 3 black-
ish longitudinal lines. Other fins
yellowish, with second dorsal and
caudal rays variegated with
violaceous, also outer half of anal
and middle of ventrals.

Length 66 mm.

(Bleeker.)

Sumatra.

Gobius olorum Sauvage

Gobius olorum Sauvage, Bull. Soc.
Philom. Paris, ser. 7, vol. 4, p. 43,
1880 (type locality, Swan River,
Western Australia). — McCulloch,
Austral. Mus. Mem., no. 5, pt. 3,
p. 370, Nov. 28, 1929 (reference).

1119

Gobius opalescens (Herre)

Ctenogobius opalescens Herre, Bull.
Raffles Mus. Singapore, no. 12, p.
15, May 1936 (type locality, Reef at
Singapore). — Herre and Myers,
op. cit., no. 13, p. 43, Aug. 1937 (types).

Depth $5\frac{4}{5}$ to $5\frac{9}{10}$; head $3\frac{1}{2}$ to $3\frac{7}{10}$.
Snout $3\frac{1}{3}$ in head; eye $3\frac{3}{5}$ to 4,
subequal with snout, well invading
upper profile of head; maxillary
reaches $\frac{1}{5}$ in eye, length $2\frac{4}{5}$ in
head; upper teeth in 3 rows,
fine, and short outer row of
enlarged teeth; lower band of
teeth of 4 rows, with short outer
row of larger teeth ending in
very small canine; inner margins
of eyes touching.

Scales 25 or 26 + 2 or 3 in
lateral series; 9 transversely.
Body scales finely ctenoid, become

1119a

cycloid on breast. Head and nape to first dorsal entirely naked.

Row of sensory papillae beneath eye, 1 along anterior and lower preopercle margin with 3 branches diverging across cheeks, and another row along from margin of opercle.

D. VI - I, 9, second spine ^{in head} 2, first branched ray 2, last ray $1\frac{1}{2}$; A. I, 9, first branched ray $2\frac{1}{4}$, last ray $1\frac{1}{3}$; caudal $3\frac{1}{2}$; in rest of fish, convex behind; least depth of caudal peduncle 3; pectoral $1\frac{2}{7}$; ventral $1\frac{1}{3}$. Anal papilla 4 in eye, slender, elongate and pointed in males, much shorter in females.

Color in alcohol old ivory, with 4 small but conspicuous dusky spots between pectoral and caudal, and brown or dusky freckles over upper half. Two blackish spots at caudal base,

119b
one at end of caudal peduncle
and other little behind and below
on fin, or both often fused into
a large angulated or curved
spot. Along sides many more or
less evident white spots. Evidently
in life pearly spot on each scale.
Characteristic short, linear,
black spot on vertex. Some
specimens with cheeks more or less
spotted. Dorsals cross barred by
4 rows of brown spots. Anal
barred by alternate rows of
blackish and white spots. Caudal
barred by 5 or 6 rows of dusky
spots. Paired fins clear or cross-
barred by dark spots. In life
second dorsal and caudal probably
barred by alternate rows of
black and white spots.

Length 23 to 39 mm.

Singapore.

(Herre.)

Gobius ornatus Rüppell

1120

- Gobius ornatus Rüppell, Atlas Reise
Hönd. Afrika, Fische, p. 135, 1828
(type locality, Massana, Red Sea).
— Günther, Cat. Fish. Brit. Mus.,
vol. 3, p. 21, 1861 (Red Sea; Amboyna; Philippines; Fiji).
— Kner, Reise Novara, Fische, p. 173,
1865 (Pnympet). — Günther, Ann.
Mag. Nat. Hist. London, ser. 3, vol. 20,
p. 161, 1867 (). — Stein-
dachner, Sitzb. Ber. Akad. Wiss.
Wien, vol. 56, pt. 1, p. 312, 1867 (Cape
York). — Peters, Monatsb. Akad. Wiss.
Berlin, p. 263, 1868 (Paracali, Luzon).
— Bleeker, Verslag. Kon. Wet. Akad.
Amsterdam, ser. 12, vol. 2, p. 300, 1868
(Waigiu). — Schmeltz, Cat. Mus.
Godeffroy, no. 4, p. 18, 1869 (Hamusi).
— Klunzinger, Verh. zool. bot. Ges. Wien, vol. 21, p. 473, 1871 (Red Sea).
— Günther, Journ. Mus. Godeffroy,
vol. 6, pt. 11, p. 172, pl. 3, fig. A, 1877
(Fiji; Yap; Pnympet; Ponapé). —
Alleyne and Macleay, Proc. Linn. Soc. New
South Wales, vol. 1, p. 331, 1877 (Darnley Island).

1121

— Day, Fishes of India, pt. 2, p. 294,
pl. 63, fig. 1, 1876.

— Günther, Rep. Voy. Challenger,
Zool., vol. 1, pt. 6, p. 44, 1880 (Somerset).

— Macleay, Proc. Linn. Soc. New South
Wales, vol. 2, p. 356, 1878 (Port Darwin).

— Klunzinger, Sitzb. Ber. Akad. Wiss.
Wien, vol. 80, pt. 1, p. 382, 1879 (1880)
(Palmer River).

— Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, p. 594, 1881 (compiled);
vol. 8, p. 267, 1883 (Milne Bay, New
Guinea). — Vaillant, Bouq. Arch.

Mus. Hist. Paris, ser. 3, vol. 5, p. 57,
1893 (Borneo). — Seale, Oceas.

Pap. Bishop Mus., vol. 4, no. 1, p. 84,
1906 (Shortland I.). — Jordan and

Seale, Bull. Bur. Fisher., vol. 25,
p. 401, fig. 91, 1905 (1906) (Apia; Pago
Pago). — Jordan and Richardson,

Bull. Bur. Fisher., vol. 27, p. 277,
1907 (1908) (Ticao Island).

— Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, p. 319, 1911 (Tonga; Suva). — Snyder, Proc. U. S. Nat. Mus., vol. , p. 442, 1912 (Tanegashima, Kagoshima). — Beaufort, Bijdr. Dierk. Amsterdam, vol. 19, p. 130, 1913 (Saonab, Waigiu). — Fowler, Copeia, no. 58, p. 65, June 18, 1918 (Philippines). — McCulloch and Ogilby, Rec. Austral. Mus., vol. 13, p. 227, fig. 2, July 14, 1919 (Murray Is.; Two Isles; Cairns Reef; Port Darwin; New Hebrides). — Herre, Gobies of Philippines, p. 108, pl. 7, fig. 4, 1927 (Currimao; Malvo; Masugba; Puerto Galera; Adiongao; San Jose; Canigaran; Puerto Princessa; Cuyo; Zamboanga; Davao; Samal; Tiasi; Sitangkai). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 71, art. 11, p. 11, 1927 (Benkoelen, Sumatra). — Whitley, Rec. Austral. Mus., vol. 16, no. 1, p. 28, Oct. 7, 1927 (Michaelmas Cay; Hervey Bay, N. Queensland).

- Fowler, Journ. Bombay Soc. Nat. Hist., vol. 33, no. 1, p. 118, Sep. 30, 1928 (Bombay); Mem. Bishop Mus., vol. 10, p. 403, 1928 (Pelew Is.; Truk; Tonga; Suva; Fata; Samoa; Moen); Proc. Acad. Nat. Sci. Philadelphia, ^{Whitley, Australian zoologist, vol. 6, pt. 1, p. 123, Jan. 14, 1930 (note).} vol. 81, p. 615, 1929 (Hong Kong ^{reference}); ^{McCulloch, Austral. Mus. Mem., no. 5, pt. 3, p. 367, no. 28, 1929 (reference).} Herre, Journ. Pan-Pac. Res. Inst., vol. 6, no. 4, p. 14, Oct. - Dec. 1931 (New Hebrides). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 83, p. 448, 1931 (Singapore); Hong Kong Nat., vol. 2, no. 4, p. 310, Nov. 1931 ^{Proc. U.S. Nat. Mus., vol. 80, art. 6, p. 12, 1931 (Eiao, Marquesas Is.).} (Hong Kong); — Herre, Fishes Herre 1931 Philippine Exped., p. 81, 1934 (Culion; Dumaguete; Jolo; Sitanki). — Fowler, Mem. Bishop Mus., vol. 11, no. 6, p. 443, 1934 (New Britain; Santo; Vila; Vanna Lava) ^{Fowler, List Fish.} ~~Malaya~~ Herre, p. 218, 1937 (reference). — Suwatti, Index Fish. Siam, p. 152, 1936 (Siracha; Laem Sing; Ko Samui; Ko Cikh). — Appleby Roxas and Martin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 223, 1937 (reference). — Herre, Field Mus. Pub., no. 353, Zool. ser., vol. 21, p. 353, April 15, 1936 (Fiji; New Hebrides).

Acentrogobius ornatus Koumans, Zool.
Meded. Rijks Mus. Nat. Hist. Leiden,
p. 137, 1935 (discussion).

Gobius ornatus ornatus Taniyama,
Jap. Journ. Zool., vol. 7, no. 1, p. 72,
1936 (Philippines).

Gobius elegans ^(Kuhl and Van Hasselt) Valenciennes, Hist. Nat. Poiss., vol. 12,
p. (58), 1837 (type locality, Java; Vanicolo; New Guinea; Bombay).

Gobius ventralis ^(Ehrenberg) Valenciennes, Hist. Nat. Poiss., vol. 12, p. (86) 113, 1837 (type locality, Massawa, Red Sea).

Gobius interinctus Richardson, Voy. Erebus and Terror, Ichth., p. 3, pl. 15, figs. 3-6, 1844 (type locality, North west coast of Australia).

— Bleeker, Nat. Tijds. Ned. Indie, vol. 22, p. 245, 1860 (Tambelang, Bawean), p. 249 (Timor); Ned. Tijds. Dierk., vol. 1, p. 246, 1863 (Rotti), p. 249 (Flores); Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 2, p. 284, 1868 (Solor).

Gobius interstinctus Bleeker, Nat.
Tijds. Ned. Indie, vol. 3, p. (237) 275,
1852 (Wahai, Ceram); Act. Soc. Sci.
Ind. Neerl., vol. 1, no. 5, p. 6, 1856
(Amboina); Nat. Tijds. Ned. Indie,
vol. 13, p. 384, 1857 (Batjan).

Gobius periophthalmoides Bleeker,
Nat. Tijds. Ned. Indie, vol. 1, p. 249,
1850 (Type locality, West Sumatra);
vol. 6, p. 204, 1854 (Timor Kupang);
vol. 11, p. 385, 1856 (Kajeli, Borneo),
p. 487 (Ceram); Act. Soc. Ind. Neerl.
vol. 1, no. 5, p. 6, 1856 (Amboina);
vol. 2, no. 7, p. 6, 1857 (Amboina);
Nat. Tijds. Ned. Indie, vol. 13, p. 56,
1857 (Kajeli, Borneo), p. 372 (Sangi);
Act. Soc. Sci. Ind. Neerl., vol. 3, no. 4,
p. 3, 1857-58 (Manado); vol. 3, no. 9,
p. 4, 1857-58 (Trusan, Sumatra);
(Act. Soc. Sci. Ind. Neerl., vol. 8, p. 42, Feb.-Aug. 1859 (Trusan; Priaman));
Nat. Tijds. Ned. Indie, vol. 15, p. 201,
1858 (Goram), p. 220 (Biliton); vol.
18, p. 356, 1859 (Bawean); vol. 22, p. 245,
1860 (Batoesendi, Bawean); Verslag.
Kon. Akad. Wet. Amsterdam, vol. 12, p. 32,
1861 (Singapore).

1127

~~Gobius maculatus~~ Castelnau

(not hardo 1827)

Gobius maculatus, Castelnau, Victoria
Offic. Rec. Philadelphia Exhib. (Res.
Fish. Australia), p. 20, 1875 (type
locality, Queensland).

Bathygobius maculatus Mc Culloch,
Austral. Mus. Mem., no. 5, pt. 3, p. 375,
Nov. 28, 1929 (reference).

Mc Culloch and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 171, July 7, 1925
(reference). —

Gobius oligolepis (not Bleeker) ¹¹²⁸Seale,
Occas. Pap. Bishop Mus., vol. 4, no. 1,
p. 84, 1919 (New Hebrides).

Petroscirtes rhinorhynchus (not
Bleeker) Seale, op. cit., p. 89 ('Fate').

Gobius venustus Fowler, Journ.
Acad. Nat. Sci. Philadelphia, ser.
2, vol. 12, p. 551, pl. 21, lower fig.,
June 10, 1904 (type locality, Padang,
Sumatra).

Gobius (Istigobius) stephensoni Whitley,
Fish. Great Barrier Reef, Ex. 1928-29
Sci. Rep. vol. 4, no. 9, p. 301, 1932 (type
locality, Low Islands, Queensland).

1129

Depth $4\frac{1}{2}$ to $5\frac{1}{2}$; head $3\frac{1}{4}$ to $3\frac{1}{2}$, width $1\frac{1}{2}$ to $1\frac{3}{5}$. Snout $2\frac{4}{5}$ to 3 in head; eye 4 to $4\frac{1}{3}$, $1\frac{1}{3}$ to $1\frac{2}{5}$ in snout, greatly exceeds interorbital; maxillary reaches opposite front eye edge to $\frac{1}{4}$ in eye, length $3\frac{1}{5}$ to $3\frac{1}{4}$ in head; mouth low, little inclined, jaws equal; teeth depressible, moderate, in rather broad bands, outer row little enlarged; tongue truncated; interorbital $2\frac{1}{2}$ to $2\frac{3}{5}$ in eye.

Scales 25 to 27 in lateral series; 8 or 9 transversely, 11 or 12 predorsal. Scales on body large, finely ctenoid, little smaller anteriorly and predorsal extending forward to eyes. Lower sides of head naked. Prepectoral region and breast scaly.

D. VI - I, 10 A. I, 11, second dorsal

1130

spine $1\frac{3}{4}$ to $1\frac{4}{5}$ in head, first dorsal ray 2 to $2\frac{1}{5}$; A. I, 8 or I, 9, first ray $2\frac{1}{3}$ to 3; caudal I, convex behind; least depth of caudal peduncle 2 to $2\frac{1}{4}$; pectoral $1\frac{1}{5}$ to $1\frac{1}{6}$, rays 17; ventral rays I, 5, fin $1\frac{1}{3}$ to $1\frac{3}{5}$ in head. Anal papilla conic, pointed, $\frac{1}{2}$ of eye.

Pale or dull olivaceous-brown above, lower surface whitish. brown without olivaceous tint. Several series of small deep brown spots longitudinally on head and back. Brown streak below eye, and another behind lower margin of preopercle. Short black line on margin of preopercle. Opercle with brown spot in middle. Several large deep brown spots in front of pectoral base. Lower side

1131

of body with 2 longitudinal series of deep brown blotches. Spinous dorsal with a whitish margin, below which is a blackish shade; fin also with 4 or 5 inclined blackish-brown lines. Soft dorsal with a number of slightly inclined rather long brownish lines extending over several rays. Anal brownish, with similar but less distinct lines. Caudal with transverse series of dark brown blotches. Pectoral crossed by 6 or 7 narrow pale blue cross-lines. Ventrals grayish black.

Red Sea, India, Malaya, East Indies, Philippines, China, Japan, North Australia, Queensland, Melanesia, Micronesia, Polynesia.

Nine examples. Batan Island.
Tide pool. June 5, 1909. Length 23 to
60 mm.

Twenty-two examples. Batan Island.
Tide pool. July 22, 1909. Length 22
to 48 mm.

Three examples. Canimo Island,
near Daet. Tide pool. June 15, 1909.
Length 53 to 74 mm.

Three examples. Cataingan Bay.
April 17, 1908. Length 58 to 74 mm.

One example. Cebu market.
September 1, 1909. Length 90 mm.

Two examples. Cotabato, below
mouth of river, Mindanao. May
20, 1908. Length 54 to 67 mm.

10846. Dalanganan Island.
April 8, 1909. Length 94 mm.

One example. Endeavour Strait,
Palawan. December 23, 1908. Length
56 mm.

Six examples. Gubat Bay, Luzon.
June 23, 1909. Length 57 to 75 mm.
Tide pools. [1687.]

Two examples. Mactan, tide pools.
August 31, 1909. Length 28 or 29 mm.

One example. Maculabo Island,
tide pool. June 14, 1909. Length 40
mm.

One example. Mahinog, Camiguin
Island. Torch fisherman. Aug. 2, 1909.
Length 58 mm.

One example. Mahinog, Camiguin Island. August 3, 1909. From fishermen. Length 60 mm.

One example. Reef opposite Cebu, Cebu Island. April 5, 1908. Length 22 mm.

Eight examples. Lasipit, Mindanao. Tide pool. August 1, 1908. Length 15 to 45 mm.

Fifty-three examples. Logas Point, Panay. February 4, 1908. Length 28 to 88 mm.

Two examples. Philippines. [1657.] Length 28 to 62 mm.

Twenty six examples. Pilas Island. September 12, 1909. Length 27 to 80 mm.

One example. San Pascual. Tide pool. March 8, 1909. Length 33 mm.

Eighteen examples. Sinaluc Island. Tide pool. September 22, 1909. Length 34 to 63 mm.

Two examples. Sinaluc, Bisi Bisi Island. Tide pool. September 23, 1909. Length 45 to 53 mm.

1135
One example. Subig Bay, Pangasinan
Island. January 7, 1908. Length 70 mm.

Twenty-~~four~~^{six} examples. Great
Tobea Island, Dutch East Indies.
Tide pool. December 15, 1909.
Length 22 to ~~54~~⁶⁸ mm. [2152, 2155.]

~~Thirteen examples.~~

One example. Labuandata Bay,
Gulf of Boni, Celebes. Tide pool.
December 18, 1909. Length 72 mm.

Two examples. Nan Wan, Formosa.
January 27, 1910. Length 20 to 33 mm.

U. S. N. M., no. 52266. Samoa.
Bureau of Fisheries (06523).
Length 38 to 61 mm. Five
examples.

U. S. N. M., no. 65844. Truk,
Caroline Islands. Bureau of
Fisheries. Albatross Expedition 1900.
Length 29 to 60 mm. Three examples.

U. S. N. M., no. 65845. Moen,
Caroline Islands. Bureau of
Fisheries (09088). Albatross
Expedition 1900. Length 30 mm. Two
examples.

U. S. N. M., no. 71490. Tanegashima
Island, Japan. Bureau of Fisheries.
Albatross ^{Expedition} Collection 1906. Length
43 to 48 mm. Three examples.

U. S. N. M., no. 87961. Benkulen,
Sumatra. December 1925. Lieut.
H. C. Kellers. Length 72 to 100 mm.
Seven examples.

1137
U. S. N. M., no. 87963. Benkulen,
Sumatra. December 19, 1925. Lieut.
H. C. Kellers. Length 78 mm.

~~U. S. N. M., no. 89775. Eiao,
tide pool, Marquesas Islands.
September 28, 1929. C. S. Stahlnecker.
G. Pinchot Expedition.~~

Gobius ornatus campbelli (Jordan
and Snyder)

Otenogobius campbelli Jordan and
Snyder, Proc. U. S. Nat. Mus., vol. 24,
p. 62, fig. 8, 1901 (type locality,
Wakanoura, Wakayama).

Gobius ornatus campbelli Tomiyama,
Jap. Journ. Zool., vol. 7, no. 1, p. 72, 1936
(Misaki; Minoda; Sidaura; Nagasaki;
Dana-mura, Okinawa; South Sea).

1139

Rhinogobius campbelli Jordan,
Tanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, art. 1, p. 343,
fig. 294, 1913 (reference).

Gobius personatus Bleeker, Verh.
Batavia. Genoot. (Blenn. Gob.), vol.
22, p. 34, 1849 (type locality, Serai-
ji River at Banjumas). — Day,
Fishes of India, pt. 2, p. 292, pl.
63, fig. 6, 1876.

Gobius grammepomus Bleeker, Verh.
Batavia. Genoot. (Blenn. Gob.), vol.
22, p. 34, 1849 (type locality, Bogo-
wanto River at Purwodjio). —
Günther, Cat. Fish. Brit. Mus., vol.
3, pp. 64, 554, 1861.
— Károli, Termesz. Füzetek, Budapest, vol. 5, p.
165, 1881 (1882) (hagasiaki; Palaboen). (Heekel)

Gobius (Anaous) litturatus Steindachner,
Sitzb. Ber. Akad. Wiss. Wien, vol. 42,
p. 289, pl. 1, figs. 4-5, 1860 (type
locality, Philippines).

? Gobius elegans (not Valenciennes)
Bleeker, Neth. Batavia. Genoot.
Nat. Tijds. Ned. Indië, vol. 1, p. 243, fig. 10,
 1851 (Java). — Károli, Termesz. Füzetek,
Budapest, vol. 5, p. 164, 1881 (1882) (Change R.).

Gobius calderae Evermann and Seale,
Proc. U. S. Nat. Mus., vol. 31, p. 511, fig. 3,
 1906 (type locality, Caldera Bay,
 Zamboanga).

Rhinogobius calderae Suwatti, Index Fish. Siam,
 p. 154, 1936 (Laem Sing).

Rhinogobius decoratus Herre, Gobies of
Philippines, p. 181, pl. 13, fig. 3, 1927.

(type locality, Cabalian, Leyte).
Jordan and Richardson, Philippine Journ. Sci.,
 p. 48, 1910 (reference).

Ctenogobius decoratus Herre, Fishes of
Herre 1931 Philippine Exped., p. 85,
 1934 (Cebu).

Ctenogobius calderae Herre, Fish. Herre
Philippine Exped. 1931, p. 84, 1934 (Luzon).

— Roxas and Marton, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p. 225,
 1937 (reference).

1141

~~Gobius decoratus Herre~~

Rhinogobius decoratus Herre, Gobies
of Philippines, p. 181, pl. 13, fig. 3,
1927 (type locality, Cabalian,
Leyte).

Ctenogobius decoratus Herre, Fish.
Herre Philippine Exped. 1931, p. 85,
1934 (Culion). — Roxas and Marten,
Departm. Agric. Comm. Manila,
Techn. Bull. 6, p. 226, 1937 (reference).

Differs from Gobius ornatus
in the pectoral without free
rays above. Head $3\frac{1}{2}$. Predorsal
scales 10, forward to eye. D. VI-I, 10.
A. I, 9 or 10. Body with longitudinal
dark or obscure streaks and series
of dots.

1141a

Depth $5\frac{1}{8}$ to $5\frac{1}{2}$; head $3\frac{7}{8}$ to 4.
Snout $3\frac{1}{2}$ to 4 in head; eye $3\frac{2}{3}$
to 4, subequal with snout, greater
than interorbital; maxillary reaches
 $\frac{1}{2}$ in eye, length $2\frac{2}{3}$ to $2\frac{4}{5}$ in head;
mouth low, ^{little} incline, jaws subequal;
lips narrow, teeth simple, in narrow
bands in both jaws, outer row some-
what enlarged and no canines;
tongue truncate, narrow; interorbital
space narrow, concave, eye entering
upper profile of head. Gill opening
lateral. Gill rakers long, slender.

Scales 26 in lateral series; 9
transversely. Predorsal, prepectoral
and breast scaly, head otherwise
naked.

D. VI - I, 10, third spine $1\frac{4}{5}$ in
head, first ^I branched ray $1\frac{7}{8}$, ninth
branched ray $1\frac{1}{2}$; A. I, 9, first
branched ray $2\frac{1}{10}$, eighth ^I branched
ray $1\frac{4}{5}$; caudal $1\frac{1}{10}$, convex behind;
least depth of caudal peduncle $2\frac{1}{10}$;
pectoral 1, rays I, 17; ventral rays
I, 5, fin $1\frac{1}{4}$ in head. Anal papilla 2 in eye.

1141b
Body with small round dark spots, I form 5 or 6 very indefinite narrow dark longitudinal bands. Head with small dark spots, in longitudinal rows on nape. Contrasted narrow dark postocular band. Opercle with 2 small brown rings along posterior margin. Dark or black bar down from lower edge of eye until close behind hind end of maxillary.

Length 81 mm. (Jordan and Snyder)
Japan.

U. S. N. M., no. 71482. Akune,
Satsuma, Japan. Bureau of
Fisheries. Albatross Expedition
1906. Length 39 to 42 mm.

U. S. N. M., no. 71489. Iwafu, Okinawa
Riu Kyu Islands, Japan. Albatross
Expedition 1906. Length 42 to 65
mm. Six examples. As Cteno-
gobius campbelli.

1144

Gobius ornatus hongkongensis Seale

Gobius hongkongensis Seale, Philippine
Journ. Sci., vol. 9, pt. 1, p. 74, pl. 1, fig.
2, 1914 (type locality, Hong Kong).

Rhinogobius hongkongensis Chui, Biol.
Bull. St. John's Univ., no. 1, p. 162, Jan.
1931 (reference). — Fowler, Hong Kong
Nat., vol. 2, no. 4, p. 310, Nov. 1931
(Hong Kong).
(Herre, Gobies of Philippines, p. 184, 1927
(types). —

Rhinogobius hoshinonis Tanaka,

p. 226, 1917 (type locality, Hiro, Aruta, Wakayama).

Gobius ornatus hoshinonis Tomiyama,
Jap. Journ. Zool., vol. 7, no. 1, p. 73, fig. 25, 1936 (Nagasaki).

Like Gobius ornatus campbelli in the pectoral above without free rays. Head $3\frac{1}{2}$. Predorsal scales 20, extend forward to eyes. D. VI - I, 10 or 11. A. I, 9 or 10. Body with 4 indistinct dark blotches in median lateral series.

Depth $5\frac{3}{5}$ (figure shows $6\frac{3}{5}$); head 4 (figure $3\frac{3}{4}$). Snout $3\frac{1}{10}$ (figure $3\frac{3}{4}$) in head; eye $3\frac{1}{10}$ (figure $3\frac{3}{4}$); maxillary extends to front margin of eye (figure $\frac{1}{2}$ in eye), length $2\frac{4}{5}$ in head; mouth low, subhorizontal, jaws equal; upper teeth uniserial, strong, sharp; lower teeth small, sharp pointed, in several rows, outer row enlarged curved teeth resembling canines, and extra large recurved canine each side; tongue truncated or slightly rounded; interorbital space narrow ridge, with eye entering upper profile of head. Gill opening wide, not extending forward.

Scales 25 in lateral series (figure shows $25+3$); 9 transversely. Dorsal scales 10, head otherwise naked.

D. VI - I, 10, I, second spine 2 in head, first branched ray 2;

11456

A. I, 9, I, first branched ray $2\frac{3}{4}$,
last branched ray $1\frac{3}{4}$; caudal $1\frac{1}{6}$,
convex behind; least depth of
caudal peduncle $2\frac{2}{3}$; pectoral
 $1\frac{1}{10}$, rays I, 12^{none free}; ventral rays I, 5,
fin $1\frac{1}{5}$ in head. Anal papilla
pointed, $1\frac{3}{4}$ in eye.

Color in alcohol pale wood brown,
with a series of 14 small, more or less
complete, circles of darker brown (sepia)
along median line of sides. Eyes of
scales on upper half of body slightly
shaded with sepia and two or three
narrow lighter longitudinal lines
above row of median circles. Black
postocular line to suprascapula.
Opercle with 4 or 5 blue spots. Irregular
brown blotch on cheek below eye. Pectoral
base with 2 brownish blotches. Dorsals
with 4 longitudinal brownish lines.
Tip of first dorsal dusky. Anal slate
gray on outer third. Caudal with whitish
tip of fin. Finer fins pale yellowish brown, ventral
with slight gray wash.

Length 76 mm.

China.

(Seale.)

Gobius ornatus masago Tomiyama

Gobius ornatus masago Tomiyama,
Jap. Journ. Zool., vol. 7, no. 1, p. 72,
fig. 26, 1936 (type locality, Coast
of Tiba-ken, Tokyo market).

Like Gobius campbelli and G.
hongkongensis in pectoral without
detached rays above. Head 4.
Predorsal scales not reaching
eye. D. VI - I, 7. A. I, 7.

Depth 5 to $5\frac{1}{5}$; head $3\frac{3}{4}$ to 4.
 Snout $3\frac{1}{2}$ to $4\frac{1}{5}$ in head; eye $3\frac{1}{2}$
 to 4, subequal with snout; maxillary
 reaches below front edge of eye;
 length 3 to $3\frac{1}{4}$ in head; mouth
 small, subhorizontal, lower jaw
 shorter; teeth in several rows;
^{nostrils without tube;} interorbital 3 in eye, which last
 invades upper profile of head.

Scales 28 in lateral series; 9
 transversely, 8 predorsal. Scales on
 side of body ctenoid; predorsal
 not reaching eye (on figure not
 to hind preopercle edge). Head
 otherwise, and prepectoral, naked.
 Breast scaly.

D. VI — I, 7, I, ^{fourth} ~~third~~ spine $1\frac{7}{8}$
 in head; first branched ray $2\frac{1}{6}$,
 fifth branched ray $1\frac{3}{4}$; A. I, 7, I,
 first branched ray $3\frac{2}{3}$, last
 branched ray 2; Caudal 1, convex
 behind; least depth of caudal
 peduncle $2\frac{1}{3}$; pectoral $1\frac{1}{8}$, rays
 15, none detached; ventral rays
I, 5, fin $1\frac{1}{8}$ in head. Anal papilla $\frac{2}{3}$ of eye.

Color in formalin brownish above, ^{1146b}
paler below, with a series of dark
spots along middle of side of
body. Scales on upper part of
body edged with dark. Opercle
with dark blotch.

Length 25 to 30 mm. (Taniyama)

Japan. Differs from Gobius
ornatus in its smaller head, and
fewer rays of dorsal and anal
fins.

Gobius palackyi (Jordan
and Seale)

Drombus palackyi Jordan and
Seale, Proc. U. S. Nat. Mus., vol.
28, p. 797, ^{fig. 15,} 1905. (Type ~~Drombus~~
type locality, Negros, Philippine
Islands). — Seale and Bean, Proc.
U. S. Nat. Mus., vol. 33, p. 248, 1907
(Zamboanga).

Rhinogobius palackyi Herre, Gobies
of Philippines, p. 178, 1927
(Malabon; Mariveles; Kanoran).

Ctenogobius palackyi Herre, Journ.
Pan-Pac. Res. Inst., vol. 8, no. 4, p. 10,
1933 (Dumaguete); Fish. Herre
Philippine Exped. 1931, p. 86, 1934
(Culion; Negros). — Roxas and
Martin, Departm. Agric. Comm. Manila,
Techn. Bull. 6, p. 226, 1937 (reference).

Enchelynassa canina (Quoy and Gaimard).

Muraena canina Quoy and Gaimard, Voy. Uranie, Zool., 1824, p. 247
(type locality, Waigiu; Rawak).

Enchelynassa canina Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 59,
pl. 3 A (Honolulu; Fakarava; Type of *Gymnothorax vinolentus*).

Gymnothorax vinolentus Jordan and Evermann, Bull. U. S. Fish Comm.,
vol. 22, 1902 (1903), p. 165 (type locality, Kailua); vol. 23, pt. 1, 1903
(1905), pl. 11.

Enchelynassa vinolentus Jordan and Evermann, op. cit., vol. 23, pt. 1,
1903 (1905), p. 91 (type).

Enchelynassa bleekeri Jordan and Snyder, Proc. U. S. Nat. Mus., vol.
27, 1904, p. 941 (Honolulu).

Muraena bleekeri Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17,
1910, p. 409 (Tahiti; Raiatea; Hawaii).

Depth 5 to 6; head $3 \frac{1}{10}$ to $3 \frac{1}{3}$.
 Snout $4 \frac{4}{5}$ to 5 in head measured
 from snout tip; eye $3 \frac{3}{4}$ to 4, greater
 than snout or interorbital; maxillary
 reaches opposite front eye edge,
 length 3 to $3 \frac{1}{10}$ in head from
 snout tip; mouth ^{or level with} oblique, tip of
 upper jaw opposite lower eye edge,
 and lower jaw slightly protruding;
 minute teeth in jaws in several
 series, outer row enlarged; tongue
 rounded; interorbital equals pupil;
 opercles and preopercle entire.

Scales 31 in lateral series; 12
 transversely. Head naked, except
 few small scales above opercle.
 Two horizontal lines of small
 papillae on cheeks, with 4 vertical
 rows between, row along submargin
 of preopercle and 2 bars on opercle.

D. VI - I, 10, I, third spine $1 \frac{7}{8}$
 in total head length, first
 branched ray $1 \frac{9}{10}$, with branched
 ray 2; A. I, 8, I, first branched

11478

ray $2\frac{2}{3}$, seventh branched ray $2\frac{1}{10}$;
caudal $1\frac{1}{3}$, convex behind; least
depth of caudal peduncle $2\frac{1}{2}$ to
 $2\frac{3}{4}$; pectoral $1\frac{2}{5}$, rays 17 but
none free on sides; ventral rays
I, 5, fin $1\frac{1}{5}$ in total head length.

Brown, with scattered white
spots on sides of body, irregular
and rather sparse. Dorsals dark
gray, and first dorsal with 2 or 3
darker blotches. Anal, caudal
and ventrals dark gray, at least
on membranes, and anal edge pale.
Pectoral basally gray black,
with white spots.

Philippines.

U. S. N. M., no. 51954. Regan,
Philippine Islands. Dr. Bashford
Dean. Length 50 mm. Type.

Bob... L 1148
One example. Manila market.
December 12 to 18, 1907. Length
56 mm.

One example. East side Tagbalaran
Strait, Bohol Island. April 9, 1908.
Shore seine. Length 55 mm.

One example. Shore above Iloilo
River, Panay. June 2, 1908. Length
49 mm.

1149
U. S. N. M., no. 57943. Zamboanga,
Philippines. Dr. E. A. Mearns.
Length 65 mm. As Drombus
pallachyi.

U. S. N. M., no. 57971. Zamboanga,
Philippines. Dr. E. A. Mearns.
Length 55 mm.

1150

Gobius panayensis Jordan and Seale

Gobius panayensis Jordan and Seale,
Bull. Bur. Fisher., vol. 26, p. 42,
fig. 15, 1907 (type locality, Iloilo).
— Herre, Gobies of Philippines,
p. 106, 1927 (Manila; south coast of
Luzon; Siquijor; Zamboang; Davao;
Balabac; Sittanki). — Roxas and
Martin, ~~Com~~ Departm. Agric. Commerce
Manila, Tech. Bull. 6, p. 223, 1937
(reference).

Depth $4\frac{1}{4}$; head $3\frac{1}{5}$, broader than deep. Snout $3\frac{3}{5}$ in head, bluntly rounded; eye $3\frac{3}{5}$, elevated; maxillary reaches opposite hind pupil edge; mouth moderate, jaws equal; each jaw with wide bands of minute teeth, without canines; tongue bluntly rounded, entire; interorbital space narrow, equal to pupil.

Scales 41 in lateral series; 16 transversely. Head naked. Scales above pectoral very small, on caudal peduncle much largest.

D. VI, I, 10, fins continuous at bases, first dorsal origin posterior to ventral origin, fin low, middle spines longest or 2 in head; second dorsal of

1152

nearly uniform height, or equal height of first dorsal, last ray not reaching caudal base when depressed; A. I, 8, low anteriorly, hind rays 3 elongate, twice high as first, 2 in head, not reaching caudal when depressed; caudal broad, rounded, $1\frac{1}{5}$ in head; pectoral $1\frac{1}{3}$, round-pointed; ventral ~~fall~~ fall far short of slender, pointed, rather prominent anal papilla, which $1\frac{1}{2}$ in head.

In alcohol grayish, without distinctive markings. Black spot on first dorsal on upper part between fifth and sixth spines, rest of fin dusky except upper clear margin. Caudal and pectoral uniform gray. Anal and ventral blackish.

Length 62 mm.

(Philippines).

(Herre.)

Gobius pauper de Vis

Gobius pauper de Vis, Proc. Linn.
Soc. New South Wales, vol. 9, pt. 3, p.
687, Nov. 29, 1884 (type locality,
Queensland); — McCulloch, Austral.
Mus. Mem., no. 5, pt. 3, p. 369, Nov. 28,
1929 (reference).

— McCulloch and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference).

Gobius petrophilus Bleeker

Gobius petrophilus Bleeker, Nat. Tijds.
 Ned. Indie, vol. 4, p. 476, 1853 (type
 locality, Batavia near Anrust
 Island); vol. 6, p. 264, 1854 (Timor
 Kupang); vol. 13, p. 478, 1857
 (Karangbolon, Java); vol. 15, p.
 201, 1858 (Goram); vol. 17, p. 143,
 1858-59 (Boeling, Bali); vol. 19,
 p. 331, 1859 (Patjitau, Java), p. 333
 (Karangbolon); Act. Soc. Sci. Ind.
 Néerl., no. 2, vol. 6, p. 5, 1859 (Doreh,
^(Acht. Sumatra) vol. 8, p. 42, 1859 (Padang);
 New Guinea); Nat. Tijds. Ned. Indie,
 vol. 20, p. 203, 1859-60 (Karangbolon);
 vol. 22, p. 113, 1860 (Buru); Ned.
 Tijds. Dierk., vol. 1, p. 271, 1863
 (Sitapur, Timor). — Günther, Cat.
 Fish. Brit. Mus., vol. 3, p. 75, 1861 (copied).

— Whitley, Journ. Pan-Pac. Res. Inst., vol.
 1, no. 2, p. 7, Jan. - March 1927 (Fiji). —
Fowler, Mem. Bishop Mus., vol. 10, p. 404,
 1928 (copied).

Gobius pflaumi Bleeker 1155

Gobius pflaumi Bleeker, Verh.
Batavia. Genoot. (Jap.), vol. 25,
p. 42, 1853 (type locality, Nagasaki).
— Kner, Reise Novara, Fische, p.
175, 1866 (Nicobars).

Gobius pflaumi Tomiyama, Jap.
Journ. Zool., vol. 7, no. 1, p. 66, Oct.
25, 1936 (Kagoshima; Toyama Bay;
Takenoura).

Uropterygius tigrinus (Lesson).

Ichthyophis tigrinus Lesson, Mem. Soc. Hist. Nat., Paris, vol. 4, 1829, p. 399 (type locality, Bora Bora, Society Islands); Voy. Coquille, Zool., vol. 2, pt. 1, 1830, p. 129, pl. 12 (Society Is.).

Gymnomuraena tigrina Kner, Reise Novara, Fische, vol. 1, pt. 5, 1865, p. 387 (Tahiti).--Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 424 (Society Is.).

Scuticaria tigrina Jordan and Evermann, Bull. U. S. Fish Comm., vol. 1, pt. 1, 1903 (1905), p. 112, pl. 22 (Honolulu; Kailua).--Seale, Occas. Pap. Bishop Mus., vol. 4, pt. 1, 1906, p. 11 (Tahiti; Nukuhiva).

Scutitaria tigrina Borodin, Bull. Vanderbilt Mar. Mus., vol. 1, art. 1, 1930, p. 43 (Pearl Harbor, Oahu) (error).

Uropterygius tigrinus Fowler, Bishop Mus. Bull., no. 38, 1927, p. 7 (Honolulu); Mem. Bishop Mus., vol. 10, 1928, p. 59, pl. 3 B (Honolulu; Nukuhiva; Tahiti; Society Is.); vol. 11, no. 6, 1934, p. 390 (reference).

Acentrogobius pflaumi Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
(Jap.), vol. 18, p. 19, 1879 (reference)
(error).

Acentrogobius pflaumi Jordan and
Snyder, Proc. U. S. Nat. Mus., vol.
1900, p. 372 (Tokyo); Annot. Zool.
Japan., vol. 3, p. 112, 1901 (reference).

Ctenogobius pflaumi Jordan and Snyder,
Proc. U. S. Nat. Mus., vol. 24, p. 65,
1901 (Isumura; Yokohama; Wakanoura;
Amori; Matsushima; Onomichi;
Kobe; Owari Bay; Kawatana).

Rhinogobius pflaumi Jordan, Tanaka, Snyder,
Journ. College Sci., Tokyo, vol. 33, art. 1,
p. 344, 1913 (reference).

Gobius yokohamae Günther, Ann.
Mag. Nat. Hist. London, ser. 4,
vol. 20, p. 437, 1877 (type
locality, Yokohama Bay, Japan).

[Arentogobius yokohamae Jordan
and Snyder, Annot. Zool. Japon.,
vol. 3, p. 112, 1901 (reference).

[Arentogobius yokohamae Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
(Jap.), vol. 18, p. 19, 1879 (reference)
(error).

Gobius ophthalmopus (not Bleeker)
Ishikawa and Matsuura, Prelim.
Cat. Fish. Mus. Tokyo, p. 39, 1897
(Yokohama; Simoda; Tokyo).

Lycodontis meleagris (Shaw and Nodder).

Muraena meleagris Shaw and Nodder, *Naturalist's Miscellany*, vol. 7, 1795, pl. 220 (type locality, Southern Ocean).--Günther, *Journ. Mus. Godeffroy* vol. 9, pt. 17, 1910, p. 410 (Hawaiian Is., Society Is., Tahiti, Taumotus).

Gymnothorax meleagris Snyder, *Bull. U.S. Fish Comm.*, vol. 22, 1902 (1904), p. 518 (Honolulu).--Jordan and Evermann, *op. cit.*, vol. 23, pt. 1, 1903 (1905), p. 94 (Honolulu).--Fowler, *Copeia*, no. 112, Nov. 20, 1922, p. 82 (Hawaii).

Lycodontis meleagris Fowler and Ball, *Bishop Mus. Bull.*, no. 26, 1925, p. 6 (Johnston I.).--Fowler, *op. cit.*, no. 38, 1927, p. 16 (Palmyra, Washington, Fanning, Tongareva, Howland Is.); *Mem. Bishop Mus.*, vol. 10, 1928, p. 53, pl. "A (Honolulu; Honomumi; Molokai; Johnston I.; Nukuhiva; Tahiti; types of *G. tahitiensis* and *G. marquesensis*, *G. ercodes*, *G. leucostictus*, *Thyrsoidea eurosta* and *L. parvibranchialis*; Society I.); vol. 11, no. 5, 1931, p. 317 (Honolulu).

Thyrsoidea eurosta Abbott, *Proc. Acad. Nat. Sci. Phila.*, 1860, p. 478 (type locality, Hawaiian Islands).

Lycodontis eurosta Fowler, *op. cit.*, 1900, p. 494, pl. 18, fig. 4 (type)

Gymnothorax eurostus Fowler, *op. cit.*, 1912, p. 21 (type).

Lycodontis parvibranchialis Fowler, *op. cit.*, 1900, p. 494, pl. 18,

1158
Ctenogobius similis (not Gill)
Jordan and Snyder, Proc. U. S. Nat.
Mus., vol. 23, p. 759, 1901 (part;
on Günther); vol. 24, p. 56, 1901
(part).

Rhanogobius similis Jordan, Tanaka,
Snyder, Journ. College Sci. Tokyo,
vol. 33, art. 1, p. 342, 1913 (part).

g. 1 (type locality, Hawaiian Islands).

Gymnothorax laysanus Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 425, fig. 5 (Honolulu).--Snyder, op. cit., vol. 22, 1902 (1904), p. 3 (Honolulu; Mulo).--Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 27, 1904, p. 942 (Honolulu).--Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 93, pl. 12, fig. 22 (Honolulu; Waikiki; Cocoanut I.; Mulo).--Fowler, Proc. Acad. Nat. Sci. Phila., 1912, p. 21 (type of *L. parvianchialis*).

Gymnothorax leucostictus Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 425, fig. 5 (type locality, Honolulu).--Seale, Occas. Pap. Bishop Mus., vol. 1, no. 5, 1902, p. 15 (Honolulu).--Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 96, fig. 25 (Honolulu).

Gymnothorax ercodes Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 428, fig. 8 (type locality, Honolulu).--Jordan and Evermann, op. cit., vol. 23, pt. 1, 1903 (1905), p. 95, fig. 24 (Honolulu).

Gymnothorax tahitiensis Seale, Occas. Pap. Bishop Mus., vol. 4, no. 1, 1906, p. 7, pl. lower right fig. (type locality, Tahiti).

Gymnothorax marquesensis Seale, op. cit., vol. 4, no. 1, 1906, p. 10, pl. lower left fig. (type locality, Marquesas Islands).

1159

Ctenogobius virgatus Jordan and
Snyder, Proc. U. S. Nat. Mus., vol.
24, p. 63, fig. 9, 1901 (type locality,
Misaki; Wakanoura; Nagasaki;
Tokyo Bay; Matsushima; Ohomichi;
Sameda River near Tokyo).

Rhinogobius virgatus Jordan,
Tanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, art. 1, p. 344,
fig. 295, 1913 (reference).

Rhinogobius suluensis Herre, Gobies
of Philippines, p. 193, pl. 14, fig.
3, 1927 (type locality, Bungau,
Sulu Province, Philippines).
— Roxas and Martin, Departm. Agric. Comm.
Manila, Techn. Bull. 6, p. 228, 1937
(reference).

codontis tile (Buchanan-Hamilton).

Muraenophis tile Buchanan-Hamilton, Fishes of Ganges, 1822, pp. 18,

3 (type locality, Ganges estuaries near Calcutta).

Gymnothorax tile Fowler, Occas. Pap. Bishop Mus., vol. 8, no. 7, 1923

375 (Honolulu).

Lycodontis tile Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 54, pl.

B (Honolulu material).

1160

Depth $5\frac{1}{4}$ to $5\frac{1}{2}$; head $3\frac{1}{3}$ to $3\frac{1}{2}$, width $1\frac{4}{5}$ to 2. Snout $3\frac{1}{4}$ to 4 in head; eye 3 to 4, 1 to $1\frac{1}{8}$ in snout, contiguous; maxillary reaches opposite front eye edge or $\frac{1}{4}$ in eye, length $2\frac{1}{2}$ to $2\frac{2}{3}$ in head; mouth well inclined, begin in front level with lower eye edge, jaws subequal; teeth in bands in jaws, outer row enlarged and well spaced, and 1 or 2 large curved canines each side of lower jaw; inter-orbital linear, eyes entering upper profile.

Scales 29 or 30 in lateral series; 9 transversely from second dorsal origin. Head, predorsal and prepectoral regions naked. Two longitudinal ^{parallel} lines of minute papillae on cheeks.

1161

D. VI- I, 9, first dorsal spine
 $1\frac{1}{6}$ in head, first branched ray
 $1\frac{7}{8}$ to 2; A. I, 9, first branched
ray 2; caudal $1\frac{1}{8}$ to 1, convex
behind; least depth of caudal
peduncle $2\frac{4}{5}$ to 3; pectoral $1\frac{1}{4}$
to $1\frac{2}{7}$; ventral $1\frac{2}{5}$ to $1\frac{4}{7}$.
Anal papilla small and slender
in males, subglobose in females.

Brown to terra-cotta color,
with row of 4 large rectang-
ular blackish brown blotches
along side. Usually pair of
small round black spots, one
above other, at caudal base.
Six dark brown bands across
back. Dark bar or blotch on
opercle. First dorsal usually
with dark subbasal band. Second
dorsal with 3 or 4 rows of brown
spots. Caudal with 5 or 6 rows
of brown spots. Pectoral pale

1162
with large dark blotch at origin
above. Ventral dark to
blackish, edges pale.

Nicobars, Philippines, Japan,
Korea.

One example. San Pascual tide
pool, Guadalupe Island. March 8,
1908. Length 48 mm.

U. S. N. M., no. 49873. Onomichi,
Bingo, Japan. D. S. Jordan and
J. A. Snyder. Length 61 mm.

U. S. N. M., no. 45338. Fusan,
Korea. 1885. P. L. Jouy. Length
71 mm.

U. S. N. M., no. 45346. Gensan,
Korea. P. L. Jouy. Length 61 to 68
mm. Two examples.

U. S. N. M., no. 49930. Matsushima,
Rikuzen, Japan. D. S. Jordan and
J. A. Snyder. Length 57 mm.

U. S. N. M., no. 49938. Misaki,
Sagami, Japan. D. S. Jordan and
J. A. Snyder. Length 39 to 70 mm.
Nine examples.

U. S. N. M., no. 71447, Shiogama,
Rikuzen, Japan. Albatross Collection
1906. Length 50 to 75 mm. Sixty-
three examples.

U. S. N. M., no. 49871. Iwumaga,
Echizen, Japan. D. S. Jordan
and J. O. Snyder. Length 44 to
71 mm. Thirteen examples.

U. S. N. M., no. 49886. Matsui-
shima, Rikuzen, Japan. D. S.
Jordan and J. O. Snyder. Length
52 to 62 mm. Two examples.

U. S. N. M., no. 49943. Matsui-
shima, Rikuzen, Japan. D. S.
Jordan and J. O. Snyder. Length
59 or 60 mm. Two examples.

U. S. N. M., no. 59572. Yama-
gawa, Japan. June 16,
Dr. H. M. Smith. Length 79 mm.

U. S. N. M., no. 59573. Yamagawa.
June 16, Dr. H. M. Smith.
Length 70 to 74 mm. Two examples.

U. S. N. M., no. 59574. Yamagawa.
June 14, Dr. H. M. Smith.
Length 58 to 60 mm. Three
examples.

U. S. N. M., no. 59575. Yamagawa.
June 16, Dr. H. M. Smith.
Length 64 to 78 mm. Five
examples.

Gobius phaeospilosoma Bleeker 1166a

Gobius opalescens (~~Herre~~)

1119

Ctenogobius opalescens Herre

Raffles Mus. Bull., No. 12, p. 15, pl. 11,
May 1936 (type locality, Reef at
Singapore).

1166a

Depth 8, elongate, anteriorly cylindrical, posteriorly compressed; head $4\frac{1}{2}$, pointed, depressed, width $1\frac{1}{2}$. Eye 7 in head, at second fourth in head length, close to opposite eye; mouth V-shaped, oblique, extends below front margin of eye; teeth villiform, few individual, anterior row enlarged and no canines.

Scales 20 in lateral series. D. VI - I, 9, first dorsal high as body, second dorsal and anal pointed; A. I, 9; caudal obtuse, posteriorly convex, length $5\frac{1}{2}$ in body; Pectoral $5\frac{1}{2}$, rays 16; ventral rays I, 5, fin 5 in body. Anal papilla conic, pointed.

Body greenish, with row of 6 lateral brown spots. Black bar from eye to maxillary. Second dorsal and caudal variegated.

Length 46 mm. (Bleeker.)
Java and Madura.

Gobius philippinus Herre

One example. Caluagan River,
3 miles from mouth near Paluan
Bay, Mindoro. December 11, 1908.
Length 42 mm.

Gobius piapensis (Herre)

1169

Vainosa piapensis Herre, Gobies
of Philippines, p. 147, pl. 10, fig. 3,
1927 (type locality, Piapi Creek,
Dumaguete, Oriental Negros,
Philippines; Malabon; Panaj;
Iloilo; Molo; Lake Taal);
Philippine Journ. Sci., vol. 34, p. 297,
1927 (L. Taal; L. Nauyan); Journ.
Pan-Pac. Res. Inst., vol. 8, no. 4,
p. 11, 1933 (Dumaguete); Fish. Herre
Philippine Exped. 1931, p. 82 (1934)
().

Mugilogobius piapensis Roxas and
Martin, Departm. Agric. Comm. Manila
Techn. Bull. 6, p. 234, 1937 (reference).

Depth 4 to $4\frac{3}{4}$; head 4 to $4\frac{1}{4}$.
Snout $3\frac{1}{2}$ to 4 in head; eye
 $2\frac{1}{2}$ to 3, subequal or little greater
than snout, greatly exceed interorbital;
maxillary reaches $\frac{1}{3}$ to $\frac{2}{5}$ in eye,
length $2\frac{1}{2}$ to $2\frac{4}{7}$ in head;
teeth very minute in jaws, outer
row little enlarged in both;
mouth cleft low, little inclined,
jaws equal; interorbital narrow,
 $\frac{2}{5}$ eye diameter, eye impinging
on upper profile of head.

Scales 28 in lateral series;
8 transversely, 6 or 7 predorsal
forward to eyes. Opercle with
large scales. Small scales on
prepectoral region, larger on
breast.

D. VII - I, 7, second spine $\frac{1}{3}$
in head, first branched ray $\frac{13}{7}$;
A. I, 7, penultimate ray $\frac{1}{2}$; caudal
 $3\frac{2}{3}$ in rest of fish; least depth

in head 1171

of caudal peduncle $1 \frac{3}{5}$; pectoral
4 in fish without caudal; ventral
 $1 \frac{1}{6}$ in head.

Light brown, with 6 broad
black cross bars on back, and
4 or 5 alternating dark to
blackish spots along median
part of side. At caudal base
2 round black spots about size
of pupil and one above other.
^{blackish bar on cheeks below eye.}
First dorsal with edge dark
and 2 dark longitudinal bands,
and black marginal spot on fifth
membrane. Five rows of dark
spots on second dorsal. Caudal
with 5 or 6 irregular transverse
rows of dark spot. Dark spot
at upper part of pectoral base.
Philippines.

Two examples. Port Dupon, Leyte,
from brackish river. March 17,
1909. Length 26 to 30 mm.

1173

Gobius platystoma Günther

Gobius platystoma Günther, Proc.
Zool. Soc. London, 1871, p. 664, pl. 63,
fig. B (May 2, 1872) (type locality:
Port Macquarie, Queensland). —
McCulloch, Austral. Mus. Mem.,
No. 5, pt. 3, p. 372, Nov. 28, 1929
(reference).

— Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, p. , 1881 (copied). — McCulloch
and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 171, July 7, 1925
(reference). —

1174

Gobius polycynodon Bleeker

Gobius polycynodon Bleeker, Verh.
Batavia. Genoot. (Blenn. Gob.), vol.
22, p. 25, 1849 (type locality, Pasuruan).
(Madura) vol. 22, p. 5, 1849 (Madura).
(Ind. Oost-Java), vol. 23, p. 9, 1850.
— Günther, Cat. Fish. Brit. Mus.,
vol. 3, p. 30, 1861 (copied).

1174a

Depth 9, body elongate, cylindrical;
head 6, obtuse, flat above, upper
profile nearly straight, width $1\frac{1}{2}$.
Eye $3\frac{1}{2}$ in head, placed posteriorly
in front half of head, equals
interorbital; mouth cleft oblique,
extends below eye; teeth of lower
jaw villiform, close set, with outer
row of 8 to 10 curved canines.

Scales 25 in lateral series.
D. VI - I, 10, first dorsal higher
than body, second dorsal and anal
obtuse; A. I, 10; caudal obtuse,
scarcely rounded, length 5 in body;
pectoral 6, rays 14; ventral rays
I, 5, fin $6\frac{1}{2}$ in body.

Body and fins green.
Length 39 mm. (Bleeker.)
Java.

Gobius princeps de Vis

Gobius princeps de Vis, Proc. Linn.
Soc. New South Wales, vol. 9, pt. 3,
p. 685, Nov. 29, 1884 (type locality,
Cape York, Queensland). — Mc

Culloch, Austral. Mus. Mem., no. 5,
pt. 3, p. 369, Nov. 28, 1929 (reference).

— Mc Culloch and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference).

Gobius profundus (Weber)

Disquilius profundus Weber,

— Koumans, Zool. Meded. Rijks
mus. Nat. Hist. Leiden, deel 15,
afl. 1-2, p. 14, 1932 (h. lat. 6° E. long.
 98° , in 60 fathoms).

1177

Gobius pulchellus Castelnau

Gobius pulchellus Castelnau, Proc.
Zool. Acclimat. Soc. Victoria, vol.
1, p. 125, July 15, 1872 (type
locality, Westernport, Victoria).
— McCulloch, Austral. Mus.
Mem., no. 5, pt. 3, p. 371, Nov. 28, 1929
(reference).

Gobius puntang Bleeker ¹¹⁷⁸

Gobius puntang Bleeker, Nat. Tijds.
Ned. Indie, vol. 2, p. (472 ⁴⁸⁶);
1851 (type locality, Rio ^{Wahai, Ceram});
Kon. Akad. Wet. Amsterdam,
vol. 12, p. 32, 1861 (Singapore);
Nat. Tijds. Dierk., vol. 1, p. 236, 1863
(Ternate), p. 271 (Timor); vol. 2, p.
149, 1865 (Bouro), p. 192 (Ceram).
p. 292 (Amboina); Verslag. Kon.
Akad. Wet. Amsterdam, vol. 2,
ser. 2, p. 293, 1868 (Rio, Bintang).
— Day, Fishes of India, pt. 2, p. 288,
pl. 62, fig. 1, 1876. — Meyer, Anal.
Soc. Españ. Hist. Nat. Madrid, vol.
14, p. 29, 1885 (Rubi, New Guinea).
— Day, Fauna British India, Fishes,
vol. 2, p. 256, 1889. — Vaillant,
Bouv. Arch. Mus. Hist. Nat. Paris,
ser. 3, vol. 5, p. 58, 1893 (Palawan).

Lycodontis thyrsoides (Richardson).

Muraena thyrsoides Richardson, Voy. Sulphur, Fish., 1844, p. 111 (not
pl. 49, fig. 1) (type locality, China Seas, Canton).

thyrsoides

Lycodontis Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 52 (society Is

1179

— Beaufort, Bijdr. Dierk. Amsterdam,
vol. 19, p. 139, 1913 (Majalibit Bay,
Waigiu). — Tomiyama, Jap.
Journ. Zool., vol. 7, no. 1, p. 71,
Oct. 25, 1936 (Yaeyama Islands;
Jolo).

(Johnston I.).—Fowler, op. cit., no. 38, 1927, p. 6 (Fanning, Christmas, Jarvis, Tongareva, Howland and Baker Isl., Honolulu); Mem. Bishop Mus., vol. 10, 1928, p. 51 (Honolulu; Makatea; Mangareva; Palmyra; Fanning; Johnston I.; Rarotonga; Makemo; Kailua; Society Is.; type of G. nuttingi); vol. 11, no. 6, 1934, p. 389 (reference).

Gymnothorax echidna Schneider, Syst. Ichth. Bloch, 1801, p. 526 (Huahine; Tahiti).

Echidna variegata Lichtenstein, Descript. Animal. Forster, 1844, p. 181 (Huahine; Bolabola).

Poecilophis variegata Kner, Reise Novara, Fische, vol. 1, pt. 5, 1865, p. 381 (Tahiti).

Muraena nigrolineata Kaup, Cat. Apod. Fish, 1856, p. 56 (type locality, Marquesas Islands).

Muraena chrysops Kaup, op. cit., p. 70 (type locality, Tahiti).

Gymnothorax nuttingi Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 518, pl. 4, fig. 7 (type locality, Honolulu).

- Epyrias puntang Jordan and Richardson,
 Philippine Journ. Sci., p. 49, 1910
 (reference). — McCulloch and Ogilby,
 Rec. Austral. Mus., vol. 10, no. 10, p.
 221, July 14, 1919 (Cape York; type
 of Gobius concolor; Normanby I.;
 type of G. maculipinnis; Andamans).
 — Fowler and Bean, Proc. U.S. Nat.
 Mus., vol. 62, p. 72, 1922 (Zamboanga).
 — Fowler, Proc. Acad. Nat. Sci.
 Philadelphia, vol. 79, p. 290, 1927
 (Santa Maria, Philippines). — McCulloch,
Austral. Mus. Mem., no. 5,
 pt. 3, p. 373, Nov. 28, 1929 (reference).
 — McCulloch and Whitley, Mem. Queensland
 Mus., vol. 8, pt. 2, p. 171, July 7, 1925
 (reference).

Gobius viganensis Steindachner

Gobius viganensis Steindachner, Sitzs.
Ber. Akad. Wiss. Wien, vol. 102, pt. 1,
p. 230, 1893 (type locality, Philippines).
Vigan,

— Taniyama, Jap. Journ. Zool., vol. 7,
no. 1, p. 64, fig. 18, 1936 (Pavian, Formosa).

Gnatholepis puntang Fowler, Mem.
Bishop Mus., vol. 10, p. 407, 1928
(Shortland I.; Ascension I.); vol.
11, no. 5, p. 361, 1931 (reference).

Acentrogobius puntang Koumans, Zool. Meded. Rijks.
Mus. Nat. Hist. Leiden, pp. 135, 1935 (type of Gobius
canalae).

Gobius puntangoides Bleeker, Nat.
Tijdsch. Ned. Indië, vol. 5, p. 242, 1853
(type locality, Ceram).

Günther, Cat. Fish. Brit. Mus., vol.
3, p. 19, 1861 (Amboyna; Ceram). — ^{Günther,} Journ.

Mus. Godeffroy, vol. 5, p. 171, pl. 108,
fig. A, 1877 (Ponape, Carolines). — ^{Meyer,}

Martens, Preuss. Exped. Ost Asien, vol. 1, p. 391, 1876
(Yokohama). — ^{Martens,} Zool. Anz. Wien, vol. 14, p. 29, 1885 (Cebu).

Gobius (Gnatholepis) puntangoides Weber,
Abhandl. Senckenberg. Nat. Gesell.,
vol. 34, p. 43, 1911 (Brook at Waraka, Great
Kei; mouth River Fenoabori, Am I.).

Euprias puntangoides Jordan and
Sale, Bull. Bur. Fisher., vol. 25, p.
405, 1905 (1906) (reference).

Gnatholepis puntangoides Herre,
Gobies of Philippines, p. 127, pl.
9, fig. 1, 1927 (~~Ballesteros~~; Buguey;
Vigan; Hundred Is.; Polillo;
Pinaralayan; Cebu; Borongan;
Lasay; Caldera Bay; Zamboanga;
Pasay; Balayan Bay; Puru R.;
Bacon; Puerto Galera; Iwas;
Balabac; Jolo; Burigau; Sandakan;
Guindulman); Fish. Herre
Philippine Exped. 1931, p. 82 (1934)
(Philippine localities). — Roxas and
Martin, Departm. Agric. Comm. Manila
Techn. Bull. 6, p. 232, 1937 (reference).

ycodontis picta (Ahl).

Muraena picta Ahl, Specimen Ichth. Mur. Ophich., 1789, p. 8, pl.,
right fig. (type locality, East India). —Streets, Bull. U. S. Nat. Mus.,
no. 7, 1877, p. 93 (Palmyra I.).—Günther, Journ. Mus. Godeffroy, vol. 9,
p. 17, 1910, p. 419 (Hawaiian Is.; Marquesas Is.; Society Is.).

Gymnothorax pictus Snyder, Bull. U. S. Fish Comm., vol. 22, 1902
(1904), p. 518 (Honolulu; Puako Bay, Hawaii).—Jordan and Evermann, op. cit.,
pl. 23, pt. 1, 1903 (1905), p. 103, pl. 19 (Kailua; Honolulu).—Seale, Occas.
Pap. Bishop Mus., vol. 4, no. 1, 1906, p. 6 (Taumotus; Mangareva; Tahiti).—
Mendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, 1911, p. 246 (Anea,
Akarava, Makemo, Tikei, Rangiroa, Tuamotus).—Fowler, Proc. Acad. Nat. Sci.
Phil., 1912, p. 25 (Hawaiian Is.); Copeia, no. 112, Nov. 20, 1922, p. 82
(Hawaii). —Herre, Journ. Pan Pac. Res. Inst., vol. 7, no. 1, Jan.-March
1932, p. 3 (Tahiti); Field Mus. Publ., no. 353, vol. 21, April 15, 1936, p.
(Cocos I.; Atuona, Hivaoa I., Marquesas; Makatea, Tuamotus; Maraa, Tahiti).

Gobius andamanensis Day, Proc. Zool. Soc. London, p. 691, 1870 (type locality, Brackish waters in Andaman).

Gobius canalai Sauvage, Bull. Soc. Philomath. Paris, ser. 7, vol. 5, p. 102, 1881 (type locality, Canala, New Caledonia).

Gobius maculipinnis Macleay, Proc. Linn. Soc. New South Wales, vol. 8, p. 267, 1884 (type locality, Hornumby Island, fresh water, D'Entrecasteaux Group).

Gnatholepis maculipinnis Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 395, 1905 (1906) (reference).

Gobius concolor de Vis, Proc. Linn. Soc. New South Wales, vol. 9, p. 689, 1884 (type locality, Cape York).

Gnatholepis sindonis Snyder, Proc. U. S. Nat. Mus., vol. 35, p. 101, 1908 (type locality, Naha market, Okinawa); vol. 42, p. 513, pl. 68, fig. 1, 1912 (type).

1184
Gobius anjerensis (not Bleeker) Fowler,
Mem. Bishop Mus., vol. 10, p. 406, 1928
(reference to Sauvage).

Depth $3 \frac{1}{4}$ to $3 \frac{3}{4}$; head $3 \frac{2}{5}$ to $3 \frac{1}{2}$, width $1 \frac{1}{3}$ to $1 \frac{2}{3}$. 1185

Snout $2 \frac{1}{6}$ to 3 in head; eye $4 \frac{1}{5}$ to $4 \frac{2}{3}$, elevated, hind pupil edge midway in head length, greater than interorbital; maxillary reaches eye, length $2 \frac{1}{2}$ to $2 \frac{3}{4}$ in head; mouth inferior, broad, lower jaw included; lips broad, thick, fleshy, edge of each with short fringe; teeth fine, simple, conic, in bands in jaws; tongue broad, depressed, smooth, edge free and rounded in front; interorbital $2 \frac{1}{2}$ to $2 \frac{3}{4}$, narrow, level, constricted; preopercle entire. Gill rakers $1+3$, lanceolate, $2 \frac{1}{2}$ in gill filaments, which $1 \frac{1}{2}$ in eye.

Scales 27 or 28 + 3 or 4 in median lateral series; 9 or 10 transversely; 9 to 11 predorsal scales forward to middle of preorbital; 5 rows on cheek below eye, of which upper 2 rows separated from others. Muzzle naked. Scales narrowly imbricated, little smaller on breast, chest and sides of head. Scales with 13 or 14 basal radiating striae, auxiliaries 4 or 5; apical denticles 62--75; circuli very fine.

D. VI—1, 10, 1, spines flexible terminally, second to fifth ends in filaments, fourth spine 1 in head, tenth ray $1 \frac{1}{10}$; A. I, 9, 1, ninth ray $1 \frac{1}{6}$; caudal long, median rays produced to point, $2 \frac{1}{6}$ in rest of fish; least depth of caudal peduncle $\frac{2}{3}$ to $1 \frac{4}{5}$; pectoral $3 \frac{1}{4}$ in fish without caudal; ventral 1 to $1 \frac{1}{6}$ in head.

Dull brown , mottled with darker. Eight transverse irregular broken vertical bars, each obscurely double and broken. Iris slaty. Dorsals and anal with many oblique dark brown lines. Caudal paler, barred obscurely with many fine close set lines. Ventral disk dusky on hind rays.

Andamans, East Indies, Philippines,
Riu Kiu, Japan, Queensland, Melanesia.

Two examples. Maetan Islands. ¹¹⁸⁷
Tide pool. August 31, 1909. Length
104 to 108 mm.

11437 [1097]. Mariveles, Pucot
River. Dynamite. January 29, 1909.
Length 150 mm.

One example. Matnog Bay, Luzon.
May 31, 1909. Length 89 mm.
12653. Port Palapag. June 3,
1909. Length 125 mm.

Two examples. San Pascual,
Burias Island. March 8, 1909.
Length 53 to 61 mm.

9556. Santiago River, Pagapas
Bay, Luzon. February 20, 1909.
Length 173 mm.

Three examples. Cebu market.
March 20, 1909. Length 65 to 111 mm.

[1411.] ^{Ten} examples. Cebu, reef opposite. April 7, 1908. Length 18 to 16 mm. ^[525.]
6493 to 6495. Cebu market.

August 13, 1909. Length 117 to 133 mm.

22278. Batananan Island.

June 13, 1909. Length 138 mm.

[1828.] Cebu market. August 28, 1909. Length 118 mm.

7369. Gigoro Point, Dinapusan Island, Samar. July 2, 1909. Length 139 mm.

10916, 17353. Isabel, Basilan Island. September 11, 1909. Length 118 to 120 mm. Two examples.

~~Two examples. Mactan Island, tide pools. August 31, 1909. Length~~

~~104 to 108 mm. Two examples. Palagan River, Mindoro. December 11, 1908. Length 70 to 75 mm.~~

~~12653. Port Talapog. June 3, 1909. Length 125 mm.~~

~~16689 and 16690. Virgao, Mindanao. May 8, 1908. Length 129 to 145 mm.~~

One example. Small creeks,
Varadero Bay, Mindoro. October
27, 1909. Length 76 mm.

16689, 16690. Surigao, Mindanao.
May 8, 1908. Length 129 to 145 mm.

Gobius pusillus (Herre)

Pandaka pusilla Herre, Gobies of
Philippines, p. 197, pl. 15, figs. 1-2,
1927 (type locality; Vitanbani). —
Roxas and Martin, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p.
237, 1937 (reference).

1191

Gobius pygmaeus (Herre)

Pandaka pygmaea Herre, Gobies
of Philippines, p. 198, pl. 15, fig. 3,
1927 (type locality, Malabon?);
Science, vol. 69, p. 329, 1929. —
Roxas and Martin, Departm. Agric.
Comm. Manila, Tech. Bull. 6, p. 237,
1937 (reference).

Gobius reichei Bleeker

Gobius reichei Bleeker, Nat. Tijds.
Ned. Indie, vol. 5, p. 509, 1853 (type
locality, Padang, Sumatra); Act.
Soc. Sci. Ind. Nèerl. (Ned. Sumatra),
vol. 8, p. 42, Feb. - Aug. 1859 (reference).

Gobius reichei Günther, Cat. Fish.
Brit. Mus., vol. 3, p. 30, 1861 (copied).

Ctenogobius reichei Koumans, Zool. Meded.
Rijks Mus. Nat. Hist. Leiden, p. 143, 1935
(note).

Rhinogobius baliuroides (not Bleeker)
Jordan and Richardson, Bull. Bur. Fisher.,
vol. 27, p. 276, 1908 (— Herre,
Gobies of Philippines, p. 188, 1927).

1192a

Depth 6 and a little over, elongate, cylindrical anteriorly, compressed behind; head $4 \frac{3}{5}$, obtuse, convex, width $1 \frac{2}{5}$. Snout obtusely convex; eye 3 in head, in first half of head, very close to opposite eye; mouth oblique, reaches below eye; jaws subequal; teeth pluriserial, outer row enlarged and no canines; postocular groove conspicuous).

Scales 26 in lateral series. Head, also median predorsal region, naked. dorsals separated, D. VI - I, 8 or I, 9, spinous dorsal higher than soft dorsal, spines flexible but not pronounced and lower than body depth; soft dorsal obtuse, pointed behind, first ray flexible; A. I, 8 or I, 9, obtuse, pointed behind, not lower than soft dorsal. caudal obtuse, convex, length 6 in body; pectoral ⁶ obtusely rounded, rays 16; ventral rays I, 5, fin 6 in body. Anal papilla oblong.

11926

Body green above, with numerous spots, irregular, crowded and variegated with olive. Sides with several larger spots of violet blue in longitudinal row, double or triple. Cheek and preopercle with oblique violaceous streaks. Opercle with large violet blue spot. Fins yellow. Dorsal, caudal and pectoral rays variegated with brown or violet; ^{spots on caudal double above, single below.} Spinous dorsal violet or black above.

Length 55 mm.

(Bleeker.)

Sumatra.

1193

Gobius reticularis Weber

Gobius reticularis Weber, Abhandl.
Senckenberg. Nat. Gesell., vol. 34, p.
38, fig. 7, 1911 (type locality,
Wokammar, Wokam, Aru Islands;
Sungi Manumbai, Papakula,
Selstutti). — Beaufort, Bijdr.
Dierk. Amsterdam, vol. 19, p. 140,
1913 (Rabai River, Waiha River and
upper Tuba River, Waigiu). —
Fowler, Mem. Bishop Mus., vol. 10,
p. 405, 1928 (copied).

Depth $5\frac{2}{3}$ (figure shows $5\frac{1}{10}$); head $3\frac{3}{5}$ (figure $3\frac{1}{3}$). Snout 5 in head; eye 3 (figure $3\frac{3}{7}$), greater than snout; maxillary reaches $\frac{1}{5}$ in eye, length $3\frac{1}{2}$ in head; mouth oblique, snout tip level with lower eye edge, jaws subequal; teeth small, in 3 or 4 rows, with 3 outer rows little larger; tongue rounded, free; eye invades upper profile of head, close to opposite eye.

Scales 26 in lateral series; 7 transversely, 7 predorsal. Head otherwise naked. Chest and prepectoral region naked.

D. VI-I, 7, first spine $1\frac{7}{8}$ in head, first branched ray 2, sixth branched ray $1\frac{9}{10}$; A. I, 6, fourth branched ray $1\frac{3}{4}$; caudal 1, convex behind; least depth of caudal peduncle $2\frac{1}{4}$; pectoral $1 + \frac{1}{8}$ times head, rays 15; ventral rays I, 5, fin $1\frac{1}{8}$ in head.

Color in alcohol brownish or yellowish, with darker markings, on scales forming reticulations on back. On body above 6 to 8 dark transverse bands. Fins colorless, with outer third of first dorsal black, and second dorsal with obscure dark median longitudinal band.

Length 17 to 22 mm. (Weber.)

Aru Islands. Said to be near Gobius tambujon Bleeker, which is more slender, with larger jaws and different coloration.

Gobius richardsoni Bleeker

Gobius richardsoni Bleeker, Nat.
Tijds. Ned. Indie, vol. 5, p. 508, 1853
(Type locality, Padang, Sumatra);
Act. Soc. Sci. Ind. Neerl. (Acht.
Sumatra), vol. 8, p. 42, Feb. - Aug.
1859 (Bengkulu); (Diert. Celebes) vol.
8, p. 44, 1860 (Celebes).

1195

Gobius rivalis (Herre)

Trinmosa rivalis Herre, Gobies of
Philippines, p. 149, pl. 11, fig. 1, 1927
(type locality, Talabop Creek at
foot of Mount Itarog, Calabanga,
Camarines Sur Province; Hinagayan-
an River).

Mugilogobius rivalis Roxas and Martin,
Departm. Agric. Comm. Manila,
Techn. Bull. 6, p. 234, 1937
(reference).

1196

Gobius robinsoni (Fowler)

Rhinogobius robinsoni Fowler, Ann.
Batal Mus., vol. 8, pt. 3, p. 428, text-
fig. 13, Oct. 1934 (type locality,
Batal coast).

1196a

Gobius römeri Weber

1073

Gobius mingi (Herre)

Gnatholepis mingi Herre, Raffles
Mus. Bull., No. 12, p. 8, May 1936
(type locality, Pulau Ubin, ^{pl. 4} a small
island near Singapore).

1196b

Depth 5 ($4\frac{3}{4}$ on figure); head 3. Snout $3\frac{4}{5}$ in head; eye $4\frac{3}{5}$, $1\frac{1}{5}$ in snout, greater than interorbital; mouth cleft oblique, tip of snout well below level of lower eye edge, reaches about an eye diameter beyond hind eye edge, length $1\frac{1}{2}$ in head; lips broad; lower jaw very slightly shorter or subequal with upper jaw; teeth small, in band of many rows in jaws, outer row little enlarged; tongue rounded, free; bony interorbital equals pupil, eye meeting upper profile of head.

Scales 28 in lateral series; 7 transversely; 8 predorsal. Head otherwise naked, also prepectoral region, breast and chest.

D. VI. I, 7, third spine $1\frac{1}{4}$ in head, first branched ray $1\frac{5}{6}$, sixth branched ray $1\frac{3}{5}$; A. I, 6, first branched ray $2\frac{1}{5}$, fifth branched ray $1\frac{3}{5}$; caudal $1\frac{1}{8}$.

convex behind; least depth of ^{1196c}
caudal peduncle $2\frac{2}{3}$; pectoral $1\frac{1}{5}$,
rays 17; ventral rays I, 5, fin
 $1\frac{1}{2}$ in head.

Color in alcohol yellowish, and
dorsal $\frac{2}{3}$ of flanks marbled
with dark brown flecks. Cheeks
with more or less distinct arched
brown bands. First dorsal with
median and marginal longitudinal
blackish bands. Second dorsal with
2 to 4 dark longitudinal bands.
Caudal above with 4 dark cross
bands. Membranes of upper fins
with dark marks.

Length 28 to 43 mm. (Weber.)

Amu Islands. Said to be
related to Gobius mystacinus,
~~which is~~ but differs in its
rounder caudal.

Gobius richardsonii Bleeker

1196a

Gobius mawaia (Herre)

Elaimosa mawaia Herre, Raffles
Mus. Bull., No. 12, p. 9, pl. 6, May
1936 (type locality, ditch in the
Mawaia district, Johore, 55 miles
north of Singapore).

Depth 6, elongate, compressed; head $5\frac{1}{4}$, width 2. Snout obtuse, convex; eye 4 in head, in front half of ^{mouth} oblique; head, close to opposite eye; upper jaw scarcely shorter than lower jaw, extends below front part of eye; teeth pluriserial, outer series enlarged, no canines; postocular groove conspicuous.

Scales 50 in lateral series.

D. VI - I, 10 or 11, close set, first dorsal not or scarcely lower than second dorsal, flexible spines not produced; second dorsal obtuse pointed behind, first ray flexible; A. I, 10 or 11, pointed behind, scarcely lower than second dorsal; caudal obtuse, rounded, length $4\frac{1}{5}$ in body; pectoral $5\frac{1}{2}$ to $5\frac{2}{3}$, obtuse, rounded, rays 16; ventral rays I, 5, rounded, length 5 or more in body. Anal papilla elongate, conical.

1196 f
Color of body yellowish green,
above all scales margined with
darker. Opercle with large diffuse
violet blotch. Fins yellowish.
Dorsals with 2 to 4 longitudinal
violet streaks. Caudal variegated
with violet spots above, lower margin
violet.

Length 70 mm.
Sumatra.

(Bleeker.)

Gobius saldanha Barnard ¹¹⁹⁷

Gobius saldanha Barnard, Ann.
South African Mus., vol. 21, pt. 2, p.
823, Oct. 1927 (type locality,
Saldanha Bay, low tide).

Bathygobius saldanha Fowler, Proc.
Acad. Nat. Sci. Philadelphia, vol. 86,
p. 496, Nov. 6, 1934 (St. Lucia Lake,
rock pools North Zululand).

? Gobius spectabilis (not Günther)
Van Bonde, Fish. Mar. Surv. South
Africa, Spec. Rep. No. 1, p. 28, 1923.

1198

depth $4\frac{4}{5}$; head 3, width $1\frac{2}{7}$.
Snout $4\frac{1}{5}$ in head; eye $3\frac{7}{8}$,
greater than snout or interorbital;
maxillary reaches $\frac{2}{3}$ in eye,
length 2 in head; teeth in
rather narrow bands in jaws,
simple, small, conic, outer row
slightly enlarged, none on
palate; tongue slightly
emarginate in front; interorbital
 $6\frac{1}{4}$, depressed, slightly concave.
Gill rakers 1+5, short points,
 $\frac{1}{4}$ of gill filaments, which 2
in eye.

Scales 44 in axial lateral
series to caudal base and 5 more
on latter; 20 transversely at
soft dorsal origin. Rows of fine
papillae along maxillary, preorbital,
along preopercle, mandible and
3 rows on each cheek. Scales with
14 to 20 basal radiating striae;

circuli moderately fine, complete.

D. VI - 10, I, fourth spine $2\frac{2}{5}$ in head; A. I, 7, I, fifth ray $2\frac{1}{2}$; caudal $1\frac{2}{5}$, rounded behind; pectoral $1\frac{2}{5}$, upper rays silk like; ventral $1\frac{7}{8}$.

Largely blackish brown, under surface of head and belly brownish. Iris dark neutral gray. Fins more or less blackish, ventrals neutral gray.

South Africa.

A. N. S. P., one example. St. Lucia Lake, rock pools north Zululand. 1932. H. W. Bell Marley. Length 46 mm.

Gobius sapanga (Herre)

1200

Vaimosa sapanga Herre, Gobies of
Philippines, p. 152, pl. 11, fig. 3, 1927
(type locality, Sapanga Creek,
Angat, Bulacan Province, Luzon;
Gumay River; Tagmatay, near
Cagayan).

Mugilogobius sapanga Roxas and
Martin, Departm. Agric. Comm.
Manila, Techn. Bull. 6, p. 234,
1937 (reference).